WILLIAM A. HART [redacted]
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MINERAL SPRINGS

OF

WESTERN VIRGINIA.

ABLE.

GED.

UR SPRING,

ERNS.

BY DR. J. J. MOORMAN.

BURKE.

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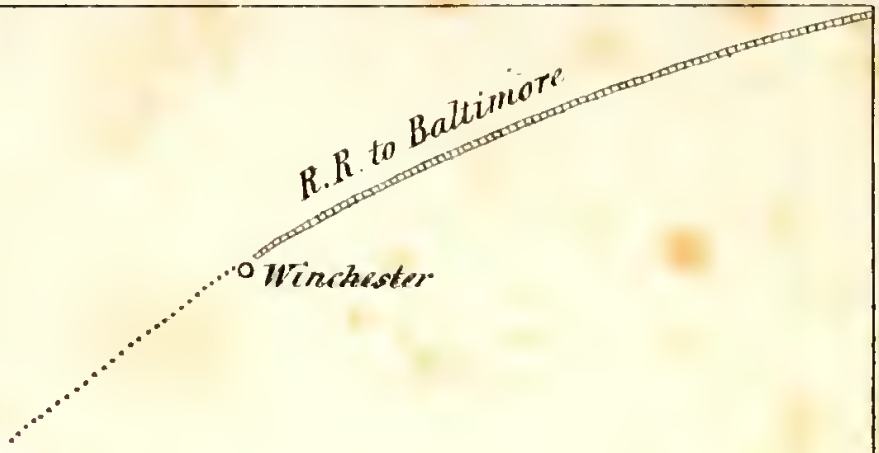
NEW YORK:
WILEY AND PUTNAM, 161 BROADWAY.

1846.


R.R. to Baltimore
Winchester

THE

MINERAL SPRINGS

OF

WESTERN VIRGINIA;

WITH

REMARKS ON THEIR USE,

AND THE

DISEASES TO WHICH THEY ARE APPLICABLE.

THE SECOND EDITION,

REVISED, CORRECTED, AND ENLARGED.

TO WHICH ARE ADDED A

NOTICE OF THE FAUQUIER WHITE SULPHUR SPRING,

AND A CHAPTER ON TAVERNS.

ALSO,

A REVIEW OF A PAMPHLET PUBLISHED BY DR. J. J. MOORMAN.

BY WILLIAM BURKE.

"Quemvis ut hoc mallem de iis qui essent idonei suscipere quam me : me quam neminem."—*Cicero.*

NEW YORK:
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1846.

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INTRODUCTION.

The writer sincerely wishes that some more competent person had undertaken the task which he proposes to himself in the following pages. As it is the opinion of many of his friends, however, that his position has given him advantages for observation of the properties and correct application of the Virginia Springs, which few have possessed, and those friends have urged him to lay those views before the Public, he will essay to treat the subject in as clear, impartial, and common sense a manner, as his capacity will admit. The writer will neither wilfully exaggerate, *nor aught set down in malice;* nor will he make any statement of facts, of the truth of which he is not personally assured, either of his own knowledge, or on information derived from sources worthy of credit. His opinions

on many points may possibly be controverted, and will, of course, receive just that amount of attention to which the reader may deem them entitled; but they are honestly entertained, and will be freely and candidly expressed, without prejudice or prepossession, and with becoming diffidence.

There are detached accounts of several of the Virginia Springs, which have been extremely useful in directing public attention to those valuable agents; but there is no work that treats of them as a group, except, perhaps, the very valuable work of "Bell on Baths and Mineral Waters," some facetious epistles indited by "Peregrine Prolix," and a brief notice of each Spring by Col. T. H. Perkins of Boston, in his Introduction to the pamphlet on the Red Sulphur Springs by Dr. Huntt, of which, with characteristic benevolence, he caused two thousand copies to be printed at his own expense, and circulated at the North. On no subject is there, indeed, greater ignorance, whether as regards the distinguishing characteristic of each Spring, its properties and proper use, or as regards the accommo dations and other subjects of inquiry. In

most cases, the visiter leaves a distant home either for the "Virginia Springs," or some particular Spring; but in either case with very indefinite ideas about them. He very naturally supposes that, when he gets into their vicinity, he will be enabled to procure all the information he desires; but here, alas! he is doomed to disappointment; and he will be fortunate if he be not made the dupe of some designing knave, who is interested in misleading him, by exaggerated commendations of some particular establishment, or by injurious and false statements with regard to others. Misrepresentation seems reduced to a system, and reports are set afloat, which, though often evidently absurd, gain credence for the time, and answer all the purposes of the unprincipled propagators. This partisan warfare is carried on, not by the proprietors, who are too respectable and intelligent to pursue so impolitic and unwarrantable a course, but by underlings and loafers, who are irresponsible, and utterly regardless of the consequences of their imposture.

Nor can the stranger always rely on the professional advice which is so freely obtruded

upon him. We have known invalids persuaded to submit themselves to a course of *medical treatment* by boasting promises of cure, and who absolutely have not been permitted to touch that for which they came hundreds of miles; but have been blistered and cupped, and leeched, and depleted both of circulating fluids and circulating medium. These remarks are made not with a view of affecting the character of any individual, but as an act of justice to the stranger, who may thereby be induced to make a more strict inquiry before he commits himself to the advice and directions of a man who may either be incompetent or unprincipled.

There may be in other states and nations mineral waters analogous to most of those in Western Virginia; but they are usually "few and far between;" and it may be asserted, that in no section of the civilized globe is there such a variety in the same space. They may and will be temporarily depressed by the universal declension of prosperity; but should that prosperity again revive, and the legislature *prove alive* to the true interests of the State, and connect the different Springs with

each other, and with the James River improvement, by fine macadamized roads, and extend those roads to the boundaries of Tennessee and Southern Kentucky, and also to Guyandotte and Parkersburg, those Springs will not only become intrinsically of immense value, but it is difficult to estimate the increase of revenue and wealth which that portion of the State, now comparatively unprofitable, will produce. Many years will not have elapsed before England and France will annually send multitudes of invalids to those unrivalled fountains, and we shall see those beautiful valleys teeming with living beings from every quarter of the globe. They only want to be known to be appreciated, and it is scarcely possible that some man of capability and reputation will not illustrate their superiority, and attract to them universal attention. The ambition of the writer moves within a more circumscribed sphere. If a solitary individual, whose eye may rest on these pages, shall chance to bless his labours, they will be amply compensated.

CHAPTER I.

Among the numerous advantages bestowed on Virginia by a bountiful Providence, there are perhaps none more important than the salubrity of climate and rich profusion of mineral waters of its transmontane territory. The happy combinations of these blessings, added to its central position, will not only make Western Virginia the great *Mecca* of invalid pilgrims, but its pellucid fountains, its beautiful villas, its secluded glens and majestic mountains, and the rich drapery of its noble forests, will ever attract to it the admirers of Nature's own workmanship.

England has her Bath, France her Aix la Chapelle, and New-York her Saratoga—places of fashionable resort, that present varied attractions to the fancies of those who live for admiration and the excitements attendant on dissipation; but they want that calm repose, that freedom from restraint, that omission of conventional usages, which render the society

of our Virginia Springs so delightful. Who would not rather luxuriate in imagination with the inimitable Scott round the copse-grown precincts of St. Ronan's Well, and contemplate at leisure the various phases and eccentricities of human character, portrayed in this, amongst the most graphic of his creations; or even repose with Frank Tyrrel, for a season, at the solitary manse of the Cleikum, enjoying the comfortable housewifery of the notable Mrs. Dods, than engage in the routine of follies and absurd ceremonies which constitute the pleasures of a *fashionable* watering-place?

Whensoever the whiz of the steam-engine shall have invaded the solitary grandeur of our mountain defiles, then will the charms of our scenery and society deteriorate under the ruthless hands of a utilitarian generation. The luxuries and conveniences of the present age have introduced among us diseases to which former ages were strangers; and had not the science of medicine fortunately kept pace with our progress in degeneracy, the havoc of the destroyer would have been frightful. But there is a vast proportion of human

maladies beyond the reach of medical skill, and to which Nature alone, that kindest and most beneficent physician, can administer relief.

It is in this condition that Mineral Springs are sought after, and in which it becomes desirable to the invalid to know whither he must direct his course to effect the object he has in view. The Springs of Western Virginia form a group unrivalled in this, and perhaps in any other country. Great and acknowledged, however, as is their power over disease, they would be shorn of much of their virtue, had Nature placed them in less favourable situations. Had they all been congregated in the city of New-York, it is doubtful whether they would sustain their present reputation. There is much truth in the following remarks of Sir Walter Scott :—

" The invalid often finds relief from his complaints, less from the healing virtues of the Spa itself, than because his system of ordinary life undergoes an entire change ; in his being removed from his leger and account books—from his legal folios and progresses of title leeds—from his counters and shelves, from

whatever else forms the main course of his constant anxiety at home, destroys his appetite, mars the custom of his exercise, deranges the digestive powers, and clogs the springs of life." Who would look for a riddance from his ailments in the murky atmosphere and crowded streets of a city? It is the sweet country alone that can invigorate the enervated constitution, raise the drooping spirits, calm the agitated mind, inspire the finer emotions of the heart, and impart elasticity and strength to the moral and physical powers.

The citizen, like a boy let loose from school, rambles over the fields, ascends the hills, culls wild flowers, and is filled with admiration, pleasure, and cheerfulness. The manner of travelling, too, has much to do with the success of his efforts to recover health. Steamboats and railroads have indeed greatly expedited locomotion; but like all labour-saving machinery, it is doubtful whether they have added much to the sum of comfort, security, or happiness. Suppose a dyspeptic to start from Boston for Winchester in Virginia, what possible advantage can he derive from these seven hundred miles of travel? He gains

nothing by change of air, for he is all the time inhaling the unwholesome atmosphere of a crowded vehicle. The velocity of motion precludes his enjoying the successions of scenery, and he reaches the end of his journey moody, selfish, and discontented; but now arrived in the garden spot of Virginia, he desires to proceed to the Springs, he enters the sociable stage-coach, rolls along the beautiful valley of the Shenandoah, is jolted into an appetite, and then the novelty of the scenery, the raillery, fun, and anecdote of the passengers, the landing at the taverns, the abusing of coffee and biscuits, and long-legged chickens—these, and a thousand other charms of a stage-coach, make him forget his acid stomach, and are worth all the pills of Peters, and Beckwith, and Brandreth, and all other nostrums of empiricism. Now he winds up the ascent of the Warm Spring Mountain, amidst thousands of clusters of the splendid Rhododendron and the gay blossoms of the Laurestinus, and ever-varying Azalia; now he reaches the summit and sees the world beneath him—mountains, and valleys, and pastures, houses, and men, and cattle—all in miniature; he is

delighted and wrapt in meditation, and he inwardly adores the majesty of that Being who is enthroned in the heavens, and who *looketh down* on the high places of the earth. The inward man is now changed; the feverish, melancholy invalid, weaned from his own gloomy reflections and anticipations of evil, is once more converted into a social being, sympathizing in the feelings and pleasures of others, and charmed out of fancied or real sufferings.

If there is a scene on this earth calculated to strike the mind with reverential awe, and raise the soul from grovelling thoughts of self to the contemplation of the God of Nature, it is to stand on the *highest top* of the *highest mountain*, and to look down on pigmy man and his ant-hill habitations, and then to reflect on his vanities and his follies, and the end of all—*his little resting-place.* Never shall we forget the emotions produced on us by our visit to the summit of the Salt-Pond Mountain, in Giles county, some years ago, with a few friends. Our horizon was extended to 50 miles around, limited only by the azure arch of heaven, and presenting to the

eye the most sublime spectacle which the human mind can conceive—

"It was a hill
Of Paradise the highest; from whose top
The hemisphere of earth, in clearest view
Stretched out to the amplest reach of prospect lay.
Not higher that hill, nor wider looking round,
Whereon, for different cause, the tempter set
Our second Adam, in the wilderness;
To show him all Earth's kingdoms and their glory."

Having conducted our readers to the summit of the Warm Spring Mountain, where the air is pure and invigorating, and whence the comfortable hotel of Col. Fry may be seen through the stinted and shattered chestnuts; his olfactories seem already to snuff the gale, laden with the grateful perfume of the fragrant coffee, and his mouth perhaps waters for hot muffins and buckwheat cakes. Whilst thus anticipating a more solid repast, it is like inflicting upon him the punishment of Tantalus, to lay before him a chapter of *Dietetics;* yet the plan of our little work requires that we should treat of this and various other preliminary matters, before we introduce him into the *sanctum* of mine host.

CHAPTER II.

Within the range of the Virginia Springs, the climate is much more uniform than that of the Atlantic region in the same latitudes. The severe north-easterly winds which extend over the tide-water districts, are arrested in their westward career by the Blue Ridge Mountains; or if they partially affect the Valley of Virginia, the Alleghanies oppose an insuperable barrier. The air, though keen, is always pure, bracing, and exhilarating; nor is there ever that alternation of a close, suffocating atmosphere, with intense cold, which is so well known on the Atlantic borders, and proves so depressing to the vital powers. Extremes of cold or heat are seldom felt, and may be considered exceptions to the general character of the climate.

We have never seen, at our residence, the thermometer lower than 6° below zero, and we have been used to consider 6° above as very cold weather. The greatest degree of

heat we have observed has been 97°, but it seldom exceeds 86°, and but for a few hours at mid-day. The usual summer atmosphere is from 57 to 78°. The nights and mornings are almost always agreeably cool. It will be readily seen, that where there is often a difference of 30° in the temperature of the morning and afternoon, it becomes necessary to adapt the clothing to the different conditions of the atmosphere; it would therefore be imprudent to go abroad in the early morning clothed in *nankeen*. Our fogs, always *indices* of fair weather, though perfectly free from miasma, are nevertheless humid, and render woollen clothing perfectly comfortable. With this precaution there is nothing to prevent early rising and exercise.

The rainy season in the Virginia Mountains sets in about the 15th of March, and sometimes extends into the month of June. The season for using the waters may be said to commence on the 1st June, and terminate on the 1st October. About the 15th September, it is not uncommon to see a heavy rain succeeded by two or three cold nights and white frosts. The visiters, alarmed by this

little equinoctical demonstration, disperse like migrating birds, and leave those beautiful valleys, lately the abodes of gaiety, solitary and silent as a deserted village. They have scarcely crossed the Blue Ridge, however, ere they find that their apprehensions of a permanent change in the weather were premature, and now earnestly wish themselves back again among the scenes and friends from which they have just departed. In truth, the most delightful period of the year in the Mountains, is that between the 20th September and 1st November. It is the sweet season of Indian summer, when the woods are clothed in their most gorgeous livery,—when Nature seems to enjoy a calm repose, as if to prepare herself for the buffeting storm of the approaching winter.

"Attemper'd suns arise
Sweet beam'd, and shedding oft through lucid clouds
A pleasing calm; while broad, and brown, below,
Extensive harvests hang the heavy head.
Rich, silent, deep, they stand; for not a gale
Rolls its light billows o'er the bending plain;
A calm of plenty!"

The society which frequents the Virginia Springs is for the most part the *élite* of the

country. Saratoga and other northern watering-places being accessible by railroads to persons in every condition of life, and at a trifling expense, the mass of visiters is of course composed of all sorts of people. The knowledge of this fact makes men distrustful of each other's standing, and shy and reserved. At the Virginia Springs, on the contrary, there is an entire feeling of equality, a relinquishment of formality, a republican simplicity of manners, a recriprocity of kind, courteous, but unpretending civility, and an easy, unaffected, social intercourse, that renders those places peculiarly agreeable. No one can have failed to observe the difference between large and small communities, as regards sociability; the latter, being in some degree individually dependent on each other, cultivate kindly feelings, and form strong attachments, whilst it is not uncommon for the resident of a city to be ignorant of the name of his next-door neighbour. So it is at the Mineral Springs: the more populous they are, the less sociable.

The great novelist from whom we have already quoted, makes indeed the following

correct observations on this subject: "The society of such places is regulated by their very nature, upon a scheme much more indulgent than that which rules the world of fashion, and the narrow circles of rank in the metropolis. The titles of rank, birth, and fortune are received at a watering-place without any very strict investigation, as adequate to the purpose for which they are preferred; and as the situation infers a certain degree of intimacy and sociability for the time, so, to whatever height it may have been carried, it is not understood to imply any duration beyond the length of the season. No intimacy can be supposed more close for the time, and more transitory in its endurance, than that which is attached to a watering-place acquaintance." Yet there are numerous instances of permanent and ardent friendship originating among those rural retreats, and even the wily Cupid not unfrequently speeds his arrows from the shade of some majestic oak. "Hither come also," says the same author, "the unprincipled gamester, the imposter, the heartless fortune-hunter. But, besides these characters, who are actually dan-

gerous to society, a well-frequented watering-place generally exhibits for the amusement of the company, and the perplexity and amusement of the more inexperienced, a sprinkling of persons called by the newspapers, eccentric characters—individuals, namely, who either from some real derangement of their understanding, or, much more frequently, from an excess of vanity, are ambitious of distinguishing themselves by some striking peculiarity in dress or address, conversation or manners, and perhaps in all. "Hither too comes the saunterer, anxious to get rid of that wearisome attendant, *himself;* and thither come both males and females, who, upon a different principle, desire to make themselves double."

Whatever may be the motive of the visit, whether pleasure or health, it will readily be conceded that a cheerful spirit, a disposition to be pleased, sympathy with the feelings of others, an entire suspension of care, and a fondness for rural scenes and enjoyments, are essential to the attainment of the object. The moody, selfish man *can* have no real enjoyment, his heart beats in unison with

no human being, he measures mankind by the standard of his own sullen disposition, he is suspicious of motive when treated with cordiality, and when not caressed, he deems his merits overlooked, his pride is wounded, and he takes revenge upon the world by shrouding himself in his offended dignity and burying himself alive in his own melancholy reflections. Whilst we shed a tear for a fellow-being afflicted with so direful a malady of the mind, we should pray God to bless us with a happy spirit of cheerfulness.

The invalid is especially prone to be low-spirited and home-sick, and when the latter feeling possesses the mind, farewell to improvement! All the faculties of the mind seem absorbed in that one thought, and it is utterly useless to oppose it. So frequent is it, indeed, especially in *mothers* who have left young children, and so easily excited, that we have for several years forbidden the song called "Home," to be sung or played by the band.

Let us therefore advise those who visit the Springs for health, to do so with the firm resolution not to make themselves unhappy

about home; or if they distrust their own firmness, let them take with them the objects of so much interest; otherwise their friends and themselves will be disappointed of happy results. The man who considers the vast influence of the passions and the affections over that wonderfully contrived machine, the human body, will not think that we have attached too much importance to this matter. Would to God, it were more generally taken into view by *medical* men! and we should then see many of the maladies that are now treated, and aggravated too, by the villanous compounds of the apothecary, readily yield to the more rational prescription of pure air, free exercise, freedom from care, and cheerful society.

Having thus far indulged in generalities, it is now time we should be more specific. Although we must reserve detail until we come to treat of the different diseases for which those Springs are visited, and the water adapted to each case, yet there are general principles which apply to all watering-places, and to the mode of using them, and thus far we shall treat this matter at present.

CHAPTER III.

When Menenius Agrippa quelled the turbulent passions of the Roman populace by repeating to them the beautiful fable of the stomach and members of the human body, he set forth, in bold relief, the advantages derived through the agency of that great reservoir, from which proceeds the elements of that vital current that swells the muscular arm of the patriot, and tinges with a modest blush the maiden's cheek; but if it had equally suited his purpose, he might have depicted, with no less truthfulness, the wan cheek, the tottering step, the sunken eye, the palsied tongue, produced by pampering it to repletion. The functions of this organ are so important that we are tempted for the benefit of our unprofessional readers, to give a brief account of its normal and pathological condition :

" The stomach [*Paris*] is immediately situated below the diaphragm, the *cardia* being

nearly opposite to the middle of the vertebræ; from thence it bulges out to the left side, the great curvature coming forward and downward; it then passes on to the right side, rising upwards so that the *pylorus* is not much farther from the diaphragm than the cardia; when therefore a man is in an erect posture, substances must ascend to pass through the pylorus. In its flaccid state, it occupies the *epigastrium* and part of the left *hypochondrium;* whilst, when distended, it exchanges its flattened for a rounded form, and fills almost completely the hypochondrium; the greater curvature descending towards the umbilicus, particularly on the left side; on account of the resistance opposed by the vertebral column, the posterior surface of the stomach cannot distend itself in that direction; this viscus is therefore wholly carried forward. The dilatation of the stomach produces very important changes in the abdomen; the total volume of the cavity augments; the belly juts out; the abdominal viscera are compressed with greater force. At the same time the diaphragm is pressed towards the breast, and

it descends with some difficulty; whence the respiratory motions are impeded.

The villous, or mucous membrane has a whitish-red appearance, and presents a singular velvet-like appearance, from which it has derived its name; not being elastic, it has numerous folds, or *rugæ*, which supply this deficiency, and serve to accommodate the capacity of the stomach to the bulk of its contents, and, at the same time, to retain the aliment until it is duly elaborated.

The stomach is abundantly vascular; indeed, it may be observed, that few structures receive so much blood as this organ; four arteries, three of which are considerable, are exclusively devoted to its service, and their several branches communicate most freely with each other, in all directions, by innumerable anastomoses; and being tortuous, they can then accommodate themselves to the full and empty states of the cavity. Nor are its nerves less numerous; they are composed of the eighth pair and a great many filaments proceeding from the *solar plexus* of the great sympathetic.

The different secretions concerned in digestion are thus enumerated by Dr. Paris :

1st. *Saliva*, which is formed by glands whose excretory ducts open into the mouth. 2. *Mucous matter*, which results from the action of numerous follicles situated in the interior of the cheeks and palate, upon the back of the tongue, on the anterior aspect of *velum*, and on the *uvula*. 3. *Gastric juice*, formed by the glands in the stomach, and the *mucus* secreted by its membrane. 4. *Mucus intestinalis*, or proper juice of the duodenum and small intestines. 5. *Bile*, which being secreted in the liver and rendered more stimulating in the gall bladder, is afterwards carried into the duodenum. 6. *Pancreatic juice*, which is secreted in the pancreas, and carried into the duodenum along with the bile ; to which perhaps may be added the *watery fluids* thrown into the intestines by the exhalants.

If we may be allowed to conceive a condition of the system in which all the organs of digestion accurately perform their respective functions, and harmonize beautifully with each other, like the well-oiled mechan-

ism of the steam engine, we may well believe it a state of *perfect* health; and indeed, it were difficult to connect with such a condition the idea of disease in any organ of the human body. But as in the engine, besides the wear and tear incident to *matter*, an unskilful and careless engineer, who piles on fuel, raises the steam above the point of security, and neglects the safety valve, hazards a concussion awful to contemplate, or by delaying some repair which at first sight may seem of minor importance, deranges first one portion of the machinery, then another, until all the parts become finally implicated and obstructed. So it is with the human frame; if from any cause it receives a shock which overpowers its vital energies, it succumbs to the blow. If any of its organs become so impaired as to produce diseased function, a continuance of that condition will in the end react upon the organ, involve other organs and their functions in the derangement, and finally undermine the constitution.

It would be foreign from our purpose to treat of the various diseases that may affect the digestive apparatus; we shall, therefore,

confine ourselves to the consideration of *Dyspepsia*, which, as being the most general, is also the most important.

Dyspepsia is most generally produced by a series of errors in diet; in which, of course, we include improper potations. Every man has a certain degree of vital energy allotted to his organism, which constitutes health, and an addition, or diminution therefrom, elevates or depresses that power so as to constitute an abnormal condition. Let us apply this principle to the stomach, and we can very readily understand how it becomes diseased. Let us suppose the vital energy possessed by the stomach of A., who labours on the canal, to be 20, and that of B., a merchant, who is all day hanging over his desk, to be 15; now A. rises at dawn, works until 8 A. M., in all probability has roused into action all the organs of secretion and excretion, and has a relish and appetite for his breakfast. He needs no buckwheat cakes floating in butter, to excite his salivary glands, and he is contented with a plain but plentiful meal. B., on the contrary, sleeps, or rather lies in bed, until 7 A. M., and dresses in

time to meet his family at the breakfast-table at 8: his bowels are constipated, his liver is torpid, his kidneys are sluggish, his skin is dry, he has a morbid appetite, he eats hot rolls and butter, beefsteak, or mutton-chops, or likely enough, both. A dish of stewed oysters now makes its appearance, and he cannot resist the temptation; some three or four varieties of hot cakes are served, and it is necessary to decide *which is the best*; so he must have a *nibble* at all. Two large cups of coffee accompany his meal, and he is literally crammed to repletion. A. returns to his work, whistles or sings all the while, or cracks a joke with his fellow-labourer; at noon he eats his allowance of bread and fat bacon, at night he again takes his homely meal, and at a proper hour retires to his hard couch and enjoys a depth of slumber that kings may envy. B. after the meal through which we have already accompanied him, walks to his counting-room, pores over his books, has a note to pay in bank for which he is not prepared, is fretted or perhaps alarmed, leaves his business at 3 P. M., takes a glass of *toddy* to stimulate his appetite, eats turtle

soup, corned beef, roast mutton, baked oysters, boiled fish, wild ducks, bread, potatoes, hominey, celery, variety pudding, crackers and cheese, apples and raisins ; he drinks ale, champagne, sherry, and perhaps port. He lounges away his time until supper, takes tea or coffee, writes until late, and then retires to repose ! Now observe that the conduct of these two persons is in the inverse ratio of their vital powers. While A. invigorates his digestive organs by just that degree of stimulation which Nature informs him is necessary to repair the waste by the different excretions, B. over-stimulates his already feeble stomach, gives it a task to perform which would oppress even the vigorous powers of A. and by a succession of such abuses lays the foundation of maladies as grievous as they are unmanageable. Will it be said that we have caricatured the habits of B. ? Alas ! there are too many fac-similes, and we are very certain that we might, with truth, have given a deeper colouring to the picture, in many cases.

If B., whose digestive powers may perhaps be adequate to a slice of cold bread and half

a pound of roast beef or mutton, takes the varied dinner we have already described, or something like it; he applies an over-stimulus to the nervous expansion; the nerves notify the brain that an additional supply of blood is necessary; the brain sends its orders to the heart, the heart gathers its fluid from the capillary system, and, guided by anxiety of the nerves, directs the vital current to the mucous coat; next follows plethora, or engorgement; then succeeds irritation of the gastric nerves; then follows an excessive secretion of acid and of air; next comes pain, flatulence, heart-burn, and *innumerable ills*.

A succession of irritations will produce *inflammation*, and then follows a defective or highly vitiated secretion; the pyloric glands no longer discriminate between the portions of chyme presented to them—it enters the duodenum in a vitiated condition—the nerves of this organ demand the sympathies of the liver and pancreas—these are overstimulated, irritated, engorged; they send through their ducts highly concentrated and acrid secretions, the mucous coat of the intestines is irritated, and the result is mucous diarrhœa or

dysentery. In another portion of this work, we have to consider the effects produced by disease of the stomach on the lungs and bronchi; we will, therefore, for the present only remark, that they are both extensive and important. The heart, the kidneys, the skin, and the brain, are all most seriously affected by derangement of the digestive apparatus.

We recognise, nevertheless, a condition of the stomach the reverse of plethora, which is usually produced by excessive hemorrhages. In this condition, a certain amount of nourishment and stimulation is not only proper but necessary. We should err greatly, however, were we, in cases of *anemia*, to push nutrition beyond the vital powers of the organ.

CHAPTER IV.

ALIMENT.

In a work like this it is not to be expected, nor indeed is it necessary, to classify the different aliments used by man ; we shall therefore content ourselves with brief remarks on the more important articles. Of these the first and most important is bread. Bread is composed of the farina of wheat, Indian corn, rye, barley, oats, buckwheat, rice. The first named is decidedly the most valuable as an article of nutrition, and is accordingly the most prized. It is fermented with barm or yeast, and seasoned with a little salt. If used as an article of *diet*, it should be suffered to become what the English call *stale*, that is, it should be kept twenty-four to forty-eight hours before use.

What is termed "dyspepsia bread" is the whole product of the grain without bolting, and is found more aperient than that made

from the finest flour. The next most important bread to an American is that which is made from Indian corn. This is best made in the very simplest manner, with water and a little salt. This bread, to be at all palatable, must be eaten *hot*, and with butter or some oily substance. Hence arises the most serious objection to it as an article of diet; used, however, in the form of mush or hasty-pudding, with sweet milk, it is a valuable article of regimen. Rye used by itself is too close and clammy, and therefore is well mixed with wheat flour or Indian meal. Rice is a valuable article, either boiled in the grain or reduced to flour and mixed with wheat flour. The greatest objection to it is a tendency to constipate.

Barley and oats are so little used in this country as aliments, that it is unnecessary to notice them further.

The meats most favorable to digestion are venison, mutton, beef, turkey, pheasants, common fowls. Any of these may be eaten in moderate quantity, once a day, by almost any patient in whose case animal food is at all admissible. Corned beef is an article *totally*

different from fresh, and should be forbidden, as should also bacon, unless as a mere relish. Eggs should be used sparingly whilst using Sulphur Waters, and even milk is generally too freely used. Pastry of all kinds is inadmissible. Well-boiled vegetables may generally be used, with the exception of cabbage, potatoes, or such others as may disagree in each case.

Fruits *do not* agree well whilst using Sulphur Waters. They produce acidity, heartburn, and, not unfrequently, troublesome diarrhœa.

Wine, and all spirituous liquors, are generally injurious and improper; there are, however, sometimes cases in which their stimulus may be admissible. As a general rule, little fluid should be taken except the Mineral Water.

CHAPTER V.

TREATMENT.

The first consideration of the invalid after reaching his destination, should be to ascertain whether his system is in a suitable condition for commencing the use of the water. It is quite probable that after a long journey he may be constipated, that his liver may have become torpid, that he may be over-excited by fatigue; in short, there are many circumstances, any of which would render it imprudent to enter hastily on a free use of those powerful agents. If these conditions of the system exist, let the alimentary canal be freely evacuated by medicine adapted to the case, and a strict regimen instituted for forty-eight hours, or until oppression or excitement is subdued, and then let the water be taken in such a way as that it shall gradually insinuate itself through the system, and act as an *alterative* on the different functions of the

economy. The safest plan, *in serious cases*, is to obtain the advice of a physician, with the precautions already hinted at; but, physician or no physician, we say to the patient, *festina lente*. Be not influenced by the go-aheadism so characteristic of our country; but go to work calmly and systematically.

If the weather and other circumstances admit, rise about 6, throw your cloak on your shoulders, visit the Spring, take a small-sized tumbler of water, move about in a brisk walk; drink again at 7, and once more at half past 7; breakfast at 8, (what that breakfast should be, you may infer from what we have said on diet.) After breakfast, if you can command a carriage, take a drive, otherwise a slow ride on horseback until 10. From 10 to 12, enjoy yourself in conversation or other mode most agreeable to you—*eat no luncheon*—at 12 take a glass of water, at 1 take another. From 12 to 1½, take exercise at ten pins, quoits, billiards; dine at 2, (see remarks on diet); amuse yourself in social intercourse until 5. Take a drive, ride, or walk, until 6—drink a glass of water; exercise until 7—take a cracker and a cup of black tea. If you are a dancer, you may en-

joy it, but in moderation, until 9—quaff a glass of water from the Spring, and retire to your room.

If you find yourself improving, remain at the fountain ; but if, after a fair trial of the water, taken after your system has been properly prepared, and accompanied by something like the course we have suggested, the symptoms of your disease become aggravated, or new ones supervene, then you should abandon the use of the water, and try to find another better adapted to your case. But if, by an act of imprudence, you render that noxious which under more auspicious circumstances would have been salutary, you should not visit upon it the blame which is due to your own indiscretion. It has been made a question how long a mineral water can be used with advantage. Different views are entertained on this subject, but we are convinced that no general rule can be given when so much depends on the disease, its intensity, the habits of the individual, and the effects which are produced. Some recommend a change at the end of a fortnight or three weeks, alleging that a certain degree of

congestion of the liver takes place about that time, the tongue becomes furred, and headache supervenes. If such symptoms arise, there can be no doubt the use of the water should be immediately intermitted until they are removed; but if strict inquiry be made, it will be found that the patient has either been strongly predisposed to this condition of the liver, and has not prepared his system properly, or has swallowed down large quantities of water and indulged his appetite, or perhaps has taken one glass of sulphur water and two of brandy and water; but it will readily be seen that these are abuses and argue nothing. In truth, we sincerely believe that, in almost every case, the whole season may be spent with advantage at any Spring that suits the patient's case; and we are sure that in cases of long continued disease, it is folly to expect a radical cure in a few days or weeks.

CHAPTER VI.

MINERAL WATERS.*

NATURAL waters, when they are so far impregnated with foreign substances as to have a decided taste and a peculiar operation on the animal economy, are called *Mineral Waters.*

These are necessarily very diversified in their natures, but they are conveniently arranged for description under the four heads of *Carbonated*, *Sulphuretted*, *Chalybeate*, and *Saline.*

Carbonated waters are characterized by containing an excess of carbonic acid, which gives them a sparkling appearance, and the power of reddening litmus paper. These waters frequently contain the carbonates of lime, magnesia, and iron, which are held in solution by the excess of carbonic acid. The

* United States Dispensatory: Wood & Bache, 1839.

Waters of Seltzer, Spa, and Pyrmont, in Europe, and of the Sweet Springs in Virginia, belong to this class.

Sulphuretted Waters are such as contain sulphuretted hydrogen, and are distinguished by the peculiar fetid smell of that gas, and by their yielding a brown precipitate with the salts of lead or silver. Examples of this kind of mineral water are furnished by the waters of Aix la Chapelle and Harrowgate in Europe; and those of the White, Red, and Salt Sulphur Springs in Virginia.

Chalybeate Waters are characterized by a strong inky taste, and by striking a black colour with the infusion of galls, and a blue one with ferrocyanate of potassa. The iron is generally in the state of protocarbonate, held in solution by excess of carbonic acid. By standing, the carbonic acid is given off, and the protoxide becomes a hydrated sesquioxide of an ocreous colour, and is precipitated. The principal chalybeate waters are those of Tunbridge and Brighton in England, and Balston, Spa, Bedford, and Brandywine, in the United States.

Saline Waters are those the prominent

properties of which depend on saline impregnation. The salts most usually present are the sulphates, muriates, and carbonates of lime, magnesia, and soda. The principal saline waters are those of Seidlitz in Bohemia, Cheltenham and Bath in England, and Harrodsburg and Saratoga in the United States.

Carbonated Seltzer.—In a wine pint: carbonic acid, 17 cubic inches. Solid contents: carbonate of soda, 4 grs.; carbonate of magnesia, 5; carbonate of lime, 3; chloride of sodium, 17; total, 29 grs.

Sulphuretted.—Aix la Chapelle. In a wine pint: sulphuretted hydrogen, 5·5 cubic inches. Solid contents: carbonate of soda, 12 grs.; carbonate of lime, 4·75; chloride of sodium, 5; total, 20·75 grs.

Harrowgate Old Well.—In a wine gallon, gaseous contents: sulphuretted hydrogen, 14 cubic inches; carbonic acid, 4·25; nitrogen, 8; carbonated hydrogen, 4·15; total, 30·4 cubic inches. Solid contents: chloride of sodium, 752 grs.; muriate of lime, 65·75; muriate of magnesia, 29·2; bi-carbonate of soda, 12·8; total, 859·75.

*White Sulphur.**—In a wine gallon, gaseous contents: sulphuretted hydrogen, 2·5 cubic inches; carbonic acid, 2; oxygen, 1·448; nitrogen, 3·552; total, 9·5. Solid contents in a pint: sulphate of magnesia, 5·588 grs.; sulphate of lime, 7·744; carbonate of lime, 1·150; muriate of lime, 0·204; chloride of sodium, 0·180; oxide of iron, a trace; loss, 0·410; total, 15·276 grs.—(*Wm. B. Rogers.*)

Red Sulphur.—"I herewith send you an account of my analysis of the large Spring:—Temperature 58°, (54° by the corrected thermometer.) Gaseous contents in an imperial gallon: sulphuretted hydrogen, 4·54 cubic inches; carbonic acid, 8·73; nitrogen, 4·23.

Solid contents of 32 cubic inches of water,

* The analysis of the White Sulphur is, like all others that precede it, taken from the United States Dispensatory, published in 1839. The analysis of the Hot Springs by Professor Rogers was given to a member of the author's family by Dr. Goode, and that of the Red Sulphur is an extract from a letter of Professor Rogers, which the author feels authorised to make public. It will be readily seen, however, that all the analyses furnished by Prof. R. are mere outlines, and there is good reason to believe that he will now very shortly favour the public with his long contemplated work on the Geology and Mineral Waters of Virginia.

1·23 grs., consisting of sulphate of soda, lime and magnesia, carbonate of lime and muriate of soda.

Besides these ingredients, the water contains in considerable quantities a peculiar organic substance, which mingled with sulphur, is deposited on the sides of the Spring, and seems to increase by a species of vital growth. This matter is analogous to what occurs in several European springs, and has lately been designated by the name of *Glairine*. Its existence in the Red Sulphur so largely may be an important cause of the valuable and peculiar agencies of the water. You may state the substance of what I have mentioned respecting the contents of the Spring, and *urge particularly* the *peculiar* value of the water in pulmonary disease, on account of its freedom from irritating saline matters, its low temperature, the quantity of sulph. hydrogen, and probably the large amount of organic matter which it holds dissolved."

Hot Springs.—The free gas in *boiler* contained in 100 cubic inches: nitrogen, 1·16; oxygen, 0·20; total, 7·41. There is also a trace of hydrogen in the water, but not a suf-

ficient quantity to admit of determination. The saline ingredients in 64 cubic inches are as follows :

Carbonate of lime,	4·82 grs.
Sulphate of lime,	1·52
Sulphate of soda,	0·92
Sulphate of magnesia,	0·57
Muriate of soda,	0·37
Silica,	0·05
Total,	8·25

A trace of oxide of iron and muriates of magnesia and lime.

A comparative glance at our Mineral Springs and those of Europe, will in most instances show a large excess of gases and salt in favour of the latter ; but this is the very reason that our waters probably excel all others on the globe. Their relative quantities being more happily adjusted, and their combinations more elaborate, the effect upon the economy is more in accordance with the operations of nature. It is not the visible effect upon the excretions that is the most valuable in a Mineral Water, but that gentle, imperceptible influence which, without any

apparent disturbance of the visceral functions, clears the jaundiced complexion, animates the languid eye, invigorates the enfeebled digestion, cheers the drooping spirits, moistens the hot, husky, arid skin, imparts softness and volume and reduced quickness to the excited circulation, calms the agitated nerves, soothes the irritated mucous surfaces, gives motion and elasticity to the stiffened joints, and restores the constitution to health and youthful vigour with more certainty than could the fabled incantations of the Colchian sorceress.

CHAPTER VII.

WARM SPRINGS.

HAVING finished our general remarks, we beg leave to introduce our reader to our friend, Col. John Fry, the worthy lessee and host at the Warm Springs. Col. Fry is the son of a revolutionary patriot, and of a "*good stock.*" He is a short, thick-set man; graceful, gay and courteous in his manner. In anecdote and *story telling*, he is unrivalled; and such, indeed, is his fund of the latter, that he is sometimes compelled to have recourse to his *list* by way of memorandum, as the devotee to his beads. It were worth the while of the dyspeptic to spend some days with him, if it were only to laugh himself into good humour.

Although probably on the shady side of three-score years, he can cut a "*pigeon wing*" with the youngest and most buoyant; and as a ladies' man, he bears the palm from all competitors. But while he is lively with

the gay, he can be grave with the austere, and can accommodate himself to the dispositions of his guests with a facility we have never seen surpassed, and which can only be attained by constant intercourse with mankind. It is persons thus constituted that are alone suited for tavern-keepers. It is an art that, like riding or swimming, must be learned in early life; and we would say to him, whoever he may be, that has not been thus early indoctrinated, exchange the pursuit for some other more congenial avocation.

Qui semel aspexit quantum dimissa petitis
Præstent, mature redeat repetatque relicta.

"The Hotel, according to Col. Perkins, is 150 feet in length, built of brick, with a piazza 15 feet wide; the lodging chambers are large and the fare good." The accommodations we should think sufficiently extensive for 100 persons.

The Warm Spring Bath is one of the greatest subjects of curiosity in Western Virginia. We were about to attempt a description of it, but finding it prepared to our hand in an interesting article in Bell on Baths and Mineral Waters, we are sure it will be more

welcome than any thing we could say on the subject:

"The Warm and the Hot Springs in Virginia, and the Warm Springs in Buncombe county, North Carolina, furnish delightful natural baths for recreation and health. The bath at the Warm Springs, Bath Court-House, Virginia, is of an octagonal form, and forty feet wide from one angle to the opposite one, and between five and six feet deep in places, and no where less than four; the bottom is gravelly. The water of the Spring that supplies it is of the temperature of 96° Fahrenheit, clear and transparent, and emitting gas in large quantities. Few feelings can be more pleasurable than those which are produced by bathing in the water. Here one is like a native of the Sandwich Islands, who, after a long absence from home, is at last landed on his native shore: he plunges in the liquid element in which he had been wont to disport himself in his earlier days, and, by every variety of attitude and gesture, endeavours to compensate himself for his past privations. After a few bathings in the Warm Springs, gout and rheumatic cripples begin to exercise

those joints which were immoveable as "by Anchylosis knit," and soon enjoy entire exemption from pain. The more juvenile and healthy, who bathe for pleasure, have to be reminded of the lapse of time, and cautioned against the undue exercise of swimming, which, joined to a prolonged stay in the water, cause diaphoresis and some subsequent languor and debility. Two hours at a time are allotted for the ladies to take the bath, and the same period for the gentlemen, and so on through the day. A white flag is hoisted as a signal that it is occupied by the former. The water can be let off at the end of every bathing; and so abundant is the supply, that the basin is soon replenished by the Spring gushing up from the gravelly bottom. The basin has over it a wooden top, and is provided, on both sides, with small rooms, heated, when occasion requires it, by fires. It is here the bathers undress and dress, and here an attendant is always in waiting. Lower down the meadow, in which is the chief Spring which supplies the bath just described, is another warm one, the water of which is reserved for internal use.

Close to it is a hydrant, from which cold chalybeate water is procured. Near to these is a warm bath similar in temperature and other properties to the first, but of small dimensions, and principally intended for the use of the more aged and infirm, and for children."

We subjoin also, by way of episode, the very spirited and beautiful legend of this Spring given by Mr. Otis of Boston, as derived from the old bath-keeper, and extracted from his article in the Southern Literary Messenger of March, 1838 :

"A young Indian, more than two centuries ago, was coming from the Western valley of the great Appalachian mountains, towards the waters of the East, that opened into the beautiful bay whose branches touch the strands of some of the mightiest marts of a nation that was not then in existence. He had never trodden that path before, and nothing but the pride of youth, which would not brook that his brethren of other tribes should triumph over him as their inferior in adventure, had sustained his manly heart so far; for he had come, since the rising sun first touched, that day, the mighty peaks of

the Alleghanies, from the vales that lay at their feet on the west. He was going to carry the voice and vote of a powerful nation to the council-fire that was kindling on the banks of the great water, and he felt shame at the recurrence of the idea that the place of the young Appalachian Leopard could be vacant. But the night winds beat coldly around him, and the way was dark. There had been rains, and the earth was damp and swampy; and no grass, or fern, or heather, was at hand with which to make a bed in the bosom of the valley where he stood. He had not strength to climb the near range of mountains that drew up their summits before, as if to shut out all hopes that he could accomplish his ardent desire. Weary, dispirited, and ready to despair, he came suddenly upon an open space among the low underwood that covered the valley where he was wandering, and upon looking narrowly he observed that it was filled with water. He could see the clear reflection of the bright evening star that was just declining to her rest, and that was peeping into the fountain:—

'Like a bride full of blushes, just lingering to take
A last look in her mirror, at night, ere she goes.'

"By this translucent reflection, he could perceive that the water was clear, and its depth he could discern by the pebbles that glistened in the star-light from the bottom. He saw, too, that the water was continually flowing off, and supplying a stream that ran rippling away among the roots of the oaks that surrounded the spot; and as he stooped to taste the liquid element, he found it warm, as if inviting him to relax his chilled limbs by bathing in its tepid bosom.

"He laid aside his bow and quiver, unstrung his pouch from his brawny shoulder, took off his mocassins, and plunged in. A new life invigorated his wearied spirit, new strength seemed given to his almost rigid nerves; he swam, he dived, he lay prostrate upon the genial waves in a sort of dreaming ecstacy of delight; and when the first dawn of day broke over the rock-crowned hill, at the foot of which the Spring of Strength lay enshrined, the young Leopard came forth from his watery couch, and strode proudly up the mountain 'where path there was none.'

He was 'a young giant, rejoicing to run his course.' Full of new fire and vigour, he manfully sped on his way; and upon the eve of that day, when the chiefs and the sons of chiefs were seated around the solemn council-fire, no one of them all was found more graceful in address, more commanding in manner, more pleasing in look, and sagacious in policy, than the young *Appalachian Leopard* who bathed in the *Spring of Strength.*"

Col. Perkins says: "The water is perfectly transparent, and almost as buoyant as the Dead Sea, as described by Stevens. Bubbles are constantly rising from the bottom; the fact that when empty it takes but fifteen minutes to fill it, shows the abundant supply of this Mountain Spring." All who have described this noble fountain, write with enthusiasm; nor is it indeed to be wondered at, for the world may well be challenged for its equal. Its temperature, buoyancy, refractive power, transparency—all invest it with indescribable luxury to the feelings and to the sight.

The effect on the human form is dazzling. Could Damon have caught a glance at his

Musidora in *such a pool*, it were indeed a trial of "love's respectful modesty" to withdraw his gaze—

> "Then to the flood she rush'd; the parted flood
> Its lovely guest with closing waves received,
> And every beauty softening, every grace
> Flushing anew, a mellow lustre shed;
> As shines the lily, through the crystal mild;
> Or as the rose amid the morning dew,
> Fresh from Aurora's hand, more sweetly glows."

Thus far we have looked on the sunny side of the picture; we regret that a regard to truth requires us to introduce more of the sombre than is agreeable. Tempting, then, as is this pellucid fountain, it is necessary that the traveller should know there is danger in the indulgence. Experience, fatal in some cases, has taught this fact.

Dr. Huntt makes the following statement: "On the third evening I arrived at the Warm Springs, a distance of two hundred and thirty miles from Washington; and immediately after getting out of the stage, I plunged into the delightful bath at that place, an imprudence against which I would earnestly caution all invalids, who arrive after a long journey with

the whole system exhausted by fatigue. The consequence in my own case warrants me in pronouncing it fraught with great danger. While in the bath, its effects were very grateful and pleasant; but shortly after leaving it I became chilly, and this feeling was followed by hot skin, intense headache, and pain in the chest."

Many years ago, when afflicted with hemorrhages, pain in the chest, cough, quick pulse, and other indications of pulmonary disease, we committed a like imprudence, and the result was precisely similar to that described by Dr. Huntt.

We have known several hemorrhages induced by bathing in this Spring, and indeed where there is predisposition, they may be looked for with much certainty. Would an unmedicated bath of 96° produce the same effect under similar circumstances? We are sure it would not; and in such a condition as that of Dr. Huntt on his arrival, we are certain that a plain bath of equal temperature would have *abstracted* caloric from his feverish, excited system, and calmed, refreshed, and invigorated him. We do not hear of similar

injury done by the bath of the same temperature at the *Hot Springs*.

It is produced by the excess of nitrogen or azotic gas in the water. Largely over nine-tenths of those beautiful bubbles rising from the bottom are supposed to be of this gas; the remainder are carbonic acid gas. Atmospheric air consists of 21 parts of oxygen gas, and 79 of azotic gas. The latter undiluted is irrespirable, and being in excess produces great distress in the pulmonary apparatus. The lungs make efforts to take in oxygen, the diaphragm is spasmodically raised, the heart is compressed and excited, the quality of the blood itself is impaired by defective oxygenation—the lungs, or pleura, or both, become congested; rupture of blood vessels takes place, or pleurisy, pneumonia, or irritation of the mucous surfaces supervenes. In a word, such a catastrophe may be productive of incalculable evils. That this is the true explanation of the pathological condition produced by the bath is evident, when we find that remaining half an hour in the house, without bathing at all, produces similar phenomena. Now, in our own case, robust as we seem, we

dare not remain in the atmosphere of the Spring fifteen minutes, and we have seen others who were affected like ourselves.

We desire not to be understood as asserting that the greater portion of those who enjoy the luxury of this delightful bath, cannot do so with safety and advantage; but as intimating that the exceptions are sufficiently numerous to justify caution in its use.

We have perceived that a writer in the Southern Literary Messenger of May last, has charged us with "an effort to detract from the value of the Bath, by representing these gases as hurtful to those 'who are afflicted with hemorrhages, pain in the chest, cough, quick pulse and other indications of pulmonary disease.'"* In order to prove to the writer in the Messenger that we had not any sinister object in view in our remarks upon the peculiar effect of the atmosphere of the Bath on ourselves and others, we cheerfully give a place to the well-written article from the Messenger. In every case in which our positions are controverted or our opinions doubted, we desire to place before the reader both sides of the ques-

* It will be seen that the quotation in the Messenger is imperfect.

tion, and then he can judge for himself. Were we to enter into an elaborate argument to sustain every opinion and to refute every objection, we should indeed bring upon ourselves a Herculean labour. In the present case we ask of the reader a careful perusal of our remarks, and then of the commentary upon them, and we are sure he will perceive that the commentator yields all for which we contended, viz. that great caution is necessary in the use of so stimulating an agent. As to the opinion of Dr. Beddoes, which is relied on, the writer should have seen that it does not apply. A preponderance of one of the component parts of the atmosphere is one thing; great excess, as in this case, is another. We never intended to convey the idea that there was danger to healthy, nor even to slightly indisposed persons, in bathing in the Warm Springs; but we do assert that no *sane* man ought to advise a man afflicted with hemorrhages, pain in the chest, cough, quick pulse, and other indications of pulmonary disease, to bathe in that water.

Within the three last years, our old friend Col. Fry removed, first to Richmond, and af-

terwards to Charlottesville, where he paid the debt of nature.

For the last two years the Springs have been under the immediate control of the proprietor, Dr. John Brockenbrough, former President of the Bank of Virginia. He has selected that place as his summer retreat, and there we hope the nymphs of the fountain will annually seethe him to re-juvenescence, so that for many, many years, he may adorn society as one of the last of the "gentlemen of the old school"—a generation, now, alas! rapidly passing away.

The aspect of the place is very much improved, within two years. There is great neatness and scrupulous cleanliness all through the establishment. We found the managers obliging and the servants among the best in Virginia; in fine, we saw nothing to find fault with, but every thing calculated to produce comfort.

WARM SPRINGS, IN VIRGINIA.

(*Southern Literary Messenger.*)

These Springs are situated in a beautiful but narrow valley in the county of Bath, between two ranges of lofty mountains, running parallel from North-East, to South-West; lying about 170 miles nearly West from Richmond, and on the direct turnpike road leading through Staunton, and by the *Hot* and *White Sulphur Springs*, to Guyandotte, on the Ohio river.

The views from many points of the Warm Springs mountain, especially from the *Gap* where the road crosses, and from *the Rock*, (2,700 feet above tide water,) are much celebrated for their grandeur. These Springs have long been famed for their mineral and medicinal qualities, having been resorted to by invalids from the tide water country, in search of health, for nearly seventy years past. The land was patented so the enterprising *Lewis* family, by Governor Fauquier, in the year 1760. Some years elapsed thereafter, before there was even a wagon road over the Warm Springs mountain; the traces of a Warehouse are still visible at the Eastern base of the

mountain, where the wagons were unloaded and their contents transferred to pack-horses and distributed throughout the western country, this side of the Ohio river. There is now an excellent and well-graded road over this mountain. Many tales are related, by the older inhabitants of this part of the country, of the discovery and use made of these waters by the Indians, which are probably, in part, fabulous, but it is well ascertained that soon after the discovery of them by civilized man, they became celebrated for their curative qualities in various diseases, as well as for the luxury of bathing; that they were frequented at much labour and fatigue by great multitudes, before any other than the Sweet Springs, of the valuable watering places in Western Virginia, were known.

For the *general* effects of the Warm Bath on numerous cases of disease, we may refer to the work of Dr. Bell, "on Baths and Mineral Waters." He enumerates the following diseases, in which the Warm Bath, from 95° to 98°, will exert a curative agency, viz.: "Acute pain, with irregular and convulsive action of the muscles; convulsions of children and hysterical affections of females; mania

and mental derangement generally; bilious cholic; infantile cholera and cholera morbus; chronic diarrhœa; croup; catarrh; bronchitis, in chronic form; asthma; organic affections of the heart; chronic affections of the liver; nephritic disorders; amenorrhœa; affections of the skin in various forms; violent cases of gout; chronic rheumatism; suppression of perspiration and pains in the muscles and joints; pains in the limbs, following a mercurial course; paralytic affections," &c. In all these cases the Warm Bath acts as a powerful auxiliary to the appropriate remedies prescribed by the physician. After the fatigue and exhaustion of a long journey, or other severe exercise, the Warm Bath is peculiarly adapted to the refreshment and renovation of the body, and to the composure of the mind, as well as of the nervous system. It is well known that the Emperor Napoleon always resorted to it during the toils of his various campaigns, declaring that it had the effect of soothing and refreshing him. Dr. Darwin remarks, "to those who are past the meridian of life, and have dry skins, and begin to be emaciated, the Warm Bath, for half an hour, twice a week, I believe to be eminently ser-

viceable in retarding the advances of age." Those truly practical philosophers, Dr. Franklin and Count Rumford, bear testimony to the benefits of the Warm Bath, by using it to late periods of their lives; and in the Southern countries of Europe it is deemed as essential to the preservation of health, as it is to cleanliness and comfort. Of the luxurious Baths of Egypt, Greece and Rome, we have the most florid descriptions in all the histories of those countries.

With regard to the use of the Baths at the *Warm Springs*, it may be safely remarked, that the pleasure and voluptuousness of bathing in them are such as, in a great measure, to supersede the idea of their more valuable properties, as medicinal waters; on the principle, perhaps, that remedies grateful to the palate are never so efficacious to the patient as those which are more nauseous. It is not pretended that these waters act as a panacea in all cases, or that they may not be injudiciously used, but many cases might be cited in which the Warm Springs' Bath, especially when resorted to for some weeks, and aided by the internal use of the water, has been attended with the happiest effects. In *dyspep-*

sia of long standing, there have been some remarkable instances of permanent cure from a daily bath, and half a dozen glasses of water drunk at the fountain, when persisted in for six or seven weeks. In *chronic rheumatism* and *paralytic affections*, similar effects have been produced by the same course; but it is the misfortune of those who labour under chronic diseases, that they are prone to expect relief in a short time, and become impatient under those slow and alterative remedies that can alone restore them to health. Such complaints, in nine case out of ten, yield only to a judicious course of treatment, *long persisted in.* There is no remedy yet discovered, by the medical faculty, which will *at once* cure them, and it is no rash opinion that the Warm Spring Bath, with the water taken internally, assisted by proper regimen, moderate exercise and pure air, will have more efficacy in many chronic diseases, than all the drugs that can be prescribed by the faculty. The temperature of these medicinal waters affords a gentle stimulus to the surface and causes it to cast off its impurities, while it disposes the skin to absorb a certain portion of the fluid, with the substances held in solution by it. This, in it-

self, is of great benefit to the invalid, while to a person in health, the most pleasurable and soothing sensations are excited, particularly when friction is employed on coming out of the Bath. From the immense quantity of gas rising from the bottom of the Baths at the Warm Springs, in innumerable and beautiful little bubbles, like globules of quicksilver in appearance, and which add so much to the delightful sensations when bathing in these noble reservoirs, an effort has been made to detract from the value of the Bath, by representing these gases as hurtful to those "who are afflicted with hemorrhages from the lungs, pains in the chest and other indications of pulmonary disease." Without entering on any fine spun theory on this point; it may be observed, that persons labouring under such diseases, whether incipient or advanced, are usually oppressed when breathing an atmosphere highly charged with vapour, and while it would not be recommended to consumptive patients to use these Baths, it may safely be averred that there is no quality in the gases, rising from them, peculiarly injurious in such cases. Consumptive patients, it is well known, have more to apprehend from an ex-

cess of oxygen in the air they breathe, than from any other quality in the atmosphere, and no experienced Physician would recommend to those who are predisposed to, or are labouring under *phthisis pulmonalis*, to resort to what is termed pure mountain air: the effects of all the mineral waters, or other internal remedies that can be taken, are more than counteracted by such a climate. The mild and temperate regions of the South, even where marsh miasma prevails, are preferred, for such patients, to the keen air of the mountains, abounding with an over proportion of oxygen, for weak or diseased lungs. The celebrated Dr. Beddoes, so eminent in consumptive cases, recommended to his patients thus afflicted, to sleep over cow-houses, where the proportion of oxygen in the air was less, and that of azote greater. That the smell of the sulphuretted hydrogen gas, which rises from the Warm Bath, affects, in some instances, persons of particular Idiosyncracies, (sometimes only for a few moments,) is most true; and so there are persons who faint at the smell of the tuberose, or iris, in a close room, or even at the fragrance of the damask rose. But, that there is nothing deleterious in the

gases rising from the Warm Spring Bath, is established by the fact that a Bath keeper, for thirty or forty years, slept in one of the dressing-rooms, during the Bathing seasons, and at last died of dropsy at the advanced age of 90. His successor, who has been almost constantly in attendance for the last 15 years, is also a remarkably robust and healthy man. These facts are the best commentary on the assertion that "remaining half an hour in the house, without bathing at all, produces great danger."

The following analysis of the water of the Warm Springs, was made in the year 1835, by Professor Rogers, of the University of Virginia, and is, doubtless, very nearly correct. "The large Bath is an octagon, 38 feet in diameter; its area is 1163.77 feet. The ordinary depth being five feet," (it can be increased to six;) "the cubic capacity is 5818.86 feet, or 43,533.32 gallons; notwithstanding *the leaks*, this quantity of water will flow into the reservoir in one hour. The average temperature of the Bath is 98 degrees, Fahrenheit. The gas which rises in the Bath consists of Nitrogen; with minute quantities of Sulphuretted Hydrogen and Carbonic Acid.

Besides this gas, each gallon of water contains 4.5 cubic inches of gas, consisting of nitrogen 3.25 cubic inches.

Sulphur. Hydrogen	0.25	do.
Carbonic Acid	1.00	do.

The saline contents of one gallon of the water are as follows:

Muriate of Lime - - -	3.968
Sulphate of Magnesia (Epsom Salts)	9.984
Carbonate of Lime - -	4.288
Sulphate of Lime - -	5.466
And a trace of Soda - -	0.000
	23.706

From this account it appears, that these waters contain neutral salts and various gases, which act as a gentle aperient, diuretic, and diaphoretic. The large proportion of epsom salts, (nearly one-half,) is not only ascertained by analysis, but by the formation of the beautiful crystals from the spray, as the water falls over the flood-gate. This salt, doubtless, gives the water its aperient quality, while the carbonic acid and sulphuretted hydrogen, give tone and vigour to the stomach. In Europe it is found that the tepid waters tend more to strengthen the digestive organs than those of

a low temperature, more especially in gouty patients, but the water of the Warm Springs loses nothing of its aperient quality by being cooled in closely stopped bottles, and it becomes more palatable to many by that process.

With regard to Bathing, some precautions are necessary and proper. No person in a high fever, or under a high inflammatory diathesis should use the bath; when the inflammatory symptoms have been reduced by evacuants and depletion, he can resort to it with advantage and will find it to soothe him. From experience it has been ascertained that it is injudicious to go into the Bath after a full meal. In the morning, before breakfast, when the stomach is empty, or an hour before dinner, are the best times to bathe. Some persons prefer taking the Bath just before going to bed, and it generally produces a gentle perspiration, followed by refreshing sleep, if none, or a very light supper has been taken. It has often been remarked that visiters, after passing some time at that most valuable of all our watering places, the White Sulphur, improve in health most rapidly at the Warm Springs, which become the general resort for

ten days or a fortnight after the circuit of the more Western Springs has been made. Besides the large octagonal Bath, there has lately been erected a second, or "Lady's Bath," neatly finished and of equal depth, and before the next season a third, or "Spout Bath," will be in readiness. The "drinking Spring" will also be much improved in appearance before that time. The rise and flow of water from the Spring and Baths, is estimated at six thousand gallons a minute, and form a stream sufficient to drive the wheel of a large mill. The accommodations and comforts at the Warm Springs are equal to those of any other watering place in Virginia, but are limited in extent. The natural scenery is beautiful, but as the place was originally laid out for a village, the public road passing by the Courthouse and the hotel prevents a judicious or tasteful arrangement of the grounds about it. The square containing the Spring and Baths is, however, in the progress of improvement. With the delicious climate in summer and autumn, the Warm Springs afford a delightful sojourn for some weeks, in those seasons of the year.

CHAPTER VIII.

HOT SPRINGS.

Travelling west, five miles from the Warm Springs you reach the Hot Springs. This property is owned by Dr. Thomas Goode, a physician of high standing for talents and experience, and a man in the honesty of whose advice we think entire reliance may be placed.

Dr. G. is a tall, gentlemanly man, of great conversational powers and extensive information. He is high-toned, and by some would be termed supercilious in his manners; the remarks we made on the subject of his neighbour, though not intended for him, are nevertheless applicable to his case. His education and early habits of life were too high-pitched for such an occupation, and should serve as an apology for any deficiency in the art of pleasing.

Whatever may be the opinion of Dr. Goode's

manner, however, all will acknowledge that his fare is excellent and plentiful, and served with neatness and comfort, and all his arrangements conducive to the great object he has in view—the physical improvement of his patients. We presume his accommodations are ample for 150 persons.

"The Hot Springs (Bell) are three in number. One of them is of the temperature of 96° Fahrenheit, and of a moderate depth, and sufficiently capacious for several persons to bathe at a time. Spout Bath 103. Hot Bath 108."

"The temperature (Col. Perkins) of the Spout Bath is 106°. These baths are particularly resorted to by persons afflicted with gout, rheumatism, eruptions of the skin, and other disorders enumerated in the printed accounts of the Springs. There are two baths in which the water may be taken at six feet fall on any part of the body; the column of water is three by four inches, and when taken at the whole height of the fall, must prove beneficial to rheumatic patients and others where the *douche* is required. As one of the baths is capacious, it is used as a swimming bath by the sick, as

well as those who are travelling for pleasure; and afforded the writer great delight as well as benefit."

It will be seen by the analysis of the Hot Springs, that they are not obnoxious to the charge brought against the Warm—of an excess of nitrogen gas; they may, therefore, be used in all cases in which any water of their temperature is admissible; but as the Hot bath is decidedly stimulating to the human system, it is always proper, if not absolutely necessary, to obtain the best advice before we have recourse to so powerful an agent. There cannot be the slightest doubt of the high curative power of the Hot Springs, and nothing is more certain than that they are destined to become extensively useful in a country of such variable climate as ours, and in which rheumatic affections must necessarily be so general; but, on the other hand, if improperly applied, we know of no agent which may produce a greater amount of mischief. Dr. G. is directly interested in having those baths judiciously and successfully administered, and we have ourselves entire confidence that he has the ability to discriminate, and the candour to

advise, under what circumstances they may or may not be used. We had written thus far when a pamphlet entitled the "Invalid's Guide to the Virginia Hot Springs," prepared and published by Dr. Goode, came into our hands, and we unhesitatingly avail ourselves of the information it contains for the benefit of our readers.

"There are six baths at this place, each supplied with water from a separate Spring; they range in temperature from 98 to 106 degrees of heat. The effects of these waters in disease prove that they are highly medicated, though they are considered by many as simple hot water. They are known to contain sulp. and carb. of lime, sulp. soda and magnesia, a minute portion of muriate of iron, carb. acid gas, nitrogen gas, and a trace of sulphuretted hydrogen gas; and when used internally, the consequences are such as we might expect from our knowledge of some of their constituent parts."

"But the chemical composition of a mineral water can lead to no safe conclusions as to its medical powers. Its most potent part may be incapable of analysis, or destroyed by the pro-

cess; and its mere properties cannot be developed by analysis; our only sure test is experience of the actual result when applied to the *diseased* human system. I have been at the Hot Springs for six entire seasons, and have watched their effects on several thousand invalids, with all the interest which ownership could excite; and the result of my experience is as follows:—These waters taken internally, are anti-acid, mildly aperient, and freely diuretic and diaphoretic. But when used as a general bath, their effects are great, and excel all expectation. They equalize an unbalanced circulation, and thereby restore the different important parts of the system, when torpid,—that natural and peculiar sensibility, upon the existence of which their capacity to perform their several functions, and the beneficial action of all remedies, depend; they relax contracted tendons, excite the action of the absorbent system, promote glandular secretion, exert a marked and salutary influence over the whole biliary system, and often relieve, in a short time, excruciating pain caused by palpable and long standing disease of some vital organ."

The following interesting letter, addressed to Dr. Goode, and received by us after we had written our remarks on uterine diseases in our article on the Red Sulphur, will be found to coincide with our views of the important agency of the Hot Springs in dysmemorrhagia, or painful menstruation. Dr. Howard was formerly professor of midwifery and the diseases of women and children in the University of Maryland, and is now professor in the medical department of the University of Virginia :—

"University of Virginia, Dec. 10, 1841.

"Dr. Thomas Goode :

"Dear Sir,—I have just received your letter of the 7th inst., soliciting my opinion and experience of the remedial effects of the waters of the Hot Springs in *chronic diarrhœa* and *difficult menstruation.*

"In reply to your inquiry, I may state that for many years, but most particularly for the last ten, and during my residence in Baltimore, I have advised all my patients who were afflicted with chronic diarrhœa or painful menstruation, that resisted medical treatment, to avail themselves of the medical

powers of the Hot Springs; and I do not now recollect of an instance, when the proper *preparatory measures* and *indispensable auxiliary regimen* to the use of the Baths were strictly observed and persevered in, in which my expectations of the efficacy of the waters were disappointed.

"It is true that a few cases have occurred in which the patient returned to me without receiving any relief, and some have claimed my attention in which the diseases appeared aggravated; but in all these cases it was ascertained, that either the preparatory measures *necessary* to be *adopted previous* to taking the baths, or the *auxiliary regimen* to be used *simultaneously* with bathing, were not rigidly adhered to.

"I feel constrained by the result of my observation and experience during my visit to the Hot Springs, to state, that I believe that those waters are so potent for *injury* as well as *benefit* to those afflicted with chronic diarrhœa or painful menstruation, that none such should use them without the advice of a physician, *conversant* with their qualities. And physicians, when recommending this

watering-place to their patients, should make them aware, that travelling and its incidents sometimes convert chronic into acute affections, and that a regimen and course of medical treatment, very proper in the former state, may be highly improper in the latter condition. I am respectfully yours,

H. Howard, M. D."

The invalid's attention is especially invited to the annexed cases, as illustrative of the sanative effects of these waters, when properly and perseveringly applied.

Cases showing the benefit from the use of the Waters at the Hot Springs.

"In April, 1833, I was seized with cholera in a southern climate, from which I had scarcely recovered when intermittent fever attacked me. This continued at intervals until September, when congestive fever intervened, and continued with great violence for the space of nine days, and only subsided to give place to the intermittent again. From this, morbid appetite began to prey upon me. The ague alternated with a severe dysentery until

March, 1834. Ostematous swellings of the lower extremities made their appearance, but gave way to the use of alteratives and muriated tincture of iron. I became much emaciated and debilitated; my spleen became much enlarged; an excessively morbid condition of the stomach continued; an ungovernable craving for food of the grossest description, and other indigestible substances. In the mean time, an uncontrollable diarrhœa, which has given me more uneasiness than every other symptom, came on.

"During nearly three years every article of diet swallowed would ferment, produce the most distressing cardialgia, and run off from the bowels by profuse watery evacuations. The spleen in the left side, and swelling of the stomach and intestines, was great and painful. The irritability of the alimentary canal was so great that the smallest portions of calomel or blue pill, combined with opiates, would produce an hypercatharsis, sometimes almost fatal; neither food nor medicine agreed with me. In this state of almost despair, I visited the White Sulphur Springs, and finding that the water disagreed with me,

inasmuch as it proved too drastic, I determined to visit the Hot Springs.

"For the first two weeks of using the bath I had a bilious dejection, which had not occurred for eight months. In four days' time my diarrhœa ceased, and my evacuations became almost healthy in complexion. I had been very much annoyed with hæmorrhoids for fifteen months, which were relieved by the Spout Bath in three days. The improvement in my complexion was so great that the visiters would remark, 'Why, doctor, you will soon be well.' My spleen was reduced about one half, the abdominal muscles became relaxed and soft, my strength and activity were much improved, and every symptom seemed to give way to the use of the bath.

A. Y. Watson, M. D."

"Hot Springs, 29th August, 1833.

"In the month of January, 1806, during my attendance on the Virginia Legislature, of which I was then a member, I was very sorely afflicted with an attack of inflammatory rheumatism; and about the first of July, in the same year, after the disease had assumed a

chronic state, I arrived at the Hot Springs in Virginia much debilitated, requiring two persons to put me in and take me out of the carriage. I remained at the Springs sixty-three days, using the bath once every day except three. I was weighed the day I got to the Springs, and also on the day I left them; and if I was correctly weighed, I gained sixty pounds in weight in sixty-three days, and remained free from that complaint for upwards of twenty years. H. CALLOWAY,
of Franklin County."

"In 1826, I had a protracted attack of bilious fever, which left me in this condition. My stomach and bowels being much disordered, accompanied with great flatulency, gave me from 4 to 6 passages every 24 hours, and sometimes oftener; my stools mixed with blood more or less, and sometimes with matter very offensive. At length a tumor formed in the lower intestine about the size of a small walnut, attended with great heat and itching, which ultimately broke, and I occasionally discharged considerable quantities of blood and matter by stool. I then thought, and

still think, that the whole rectum was much diseased, and I should be compelled to submit to an operation or fall a victim to the disease. In addition to many other sufferings, in the fall of 1831, I had a severe rheumatic attack, which pervaded my whole muscular system, but was most distressing about my breast, chest, bowels and hips. In this situation, about the first of July following, I went to the Hot Springs barely able to sit up, and used the waters freely, drinking and bathing until the 30th of August, when I left them much relieved in every way. The ensuing summer I again returned to the Hot Springs, and used the waters by drinking and bathing until the last of August, when I returned home entirely relieved of bowel disease and nearly so of my rheumatism. I have again this summer visited these Springs, where I have been for three weeks using the waters as before, and believe myself entirely relieved of all my complaints, except a little stiffness in my hips and back.

"The above statement is believed to be entirely correct, and if you think it will be of any service to you, or to sufferers in a similar

situation, you may make any use of it that you think proper. Very respectfully, yours,

HENRY CALLOWAY.

August 30th, 1834.

To Dr. Goode."

"Hot Springs, Va., July 27th, 1838.

"Dr. Thomas Goode:

"Dear Sir,—At your request, and for the benefit of the afflicted, I give you as near as I can, a statement of my case, which has been complicated and difficult to describe. I am a resident of Detroit, State of Michigan. In July, 1829, I was attacked with a bilious fever and severe inflammation of the stomach, and was reduced very low by bleeding and medicine. I remained in a feeble state about six months, when an ulcer came out on the side of my ancle nearly the size of a dollar. This has continued on one or the other, and sometimes on both of my ancles, ever since except about two months in March and April last. My legs have been so much swelled, that I have been compelled to bandage them to the knee, most of the time. About three years ago, a rheumatic disease set in, the cords of my legs

swelled to the knees, and at times to the body, (mostly on the inside) with hard lumps on the cords frequently as large as hickory nuts, and extremely painful.

"In this state I remained hobbling about, confined to my room about one-fourth of the time, and had the advice and attendance of our most celebrated physicians, without much benefit, until about the 1st of January last, when it extended to my hips and back, and confined me to my bed; my bowels at the same time became swollen, so that a dropsy was feared, with a soreness about the region of the stomach and liver. I also had the piles very badly, and ulcers continued to form and break in the rectum, and pass off with my stools with a great deal of pain. In this condition I remained until about the 1st of May, when I was advised to try the Virginia Springs. I arrived at the White Sulphur Springs on the 8th of June, on crutches, with one foot and leg so much swollen that I feared it would burst.

"At the end of two weeks I was again able to ride, when I came to the Hot Springs, and put myself under your charge. For the first

ten days I commenced bathing I got no relief; my pain rather increased. At this time there appeared to be a copious discharge of bile from the liver; and from that time my health has improved rapidly every way. The rheumatic disease and piles are very nearly cured, the ulcers on my ancles assume a healthy appearance, and look as if they would soon heal. The swellings about the bowels have subsided, and the pain in my stomach and liver has nearly left me. I would also state, that twenty-one years ago I divided the tendons of the left foot by a cut with an axe, and when it healed the cords seemed fast to the bone, and I have had little or no use of those toes since. The effect of these hot baths has been to remove that stiffness, and loosen the tendons so that I can now move the toes quite well.

"I have taken in the last five weeks that I have been here, sixteen Sweat and twenty Spout baths, and I now feel better than at any time in the last five or six years.

ELLIOT GRAY."

"In the summer of 1836 I visited the Virginia Springs, with liver disease, as stated by

many physicians. I used the Sulphur Waters for some time, but without any decided effect. I then came to the Hot Springs, and after using the Spout bath for a few days, the pain in the right side, from a dull, increased to an acute, which induced me to apply to Dr. Goode for advice. He gave me ten grains of calomel, which brought about a most happy change in my feelings and health; producing copious discharges of dark bilious matter, when forty grains, often before taken, produced but a limited effect.

"From the Hot Springs I returned to the White Sulphur, and the water then acted freely on my bowels.

JAMES L. COLEMAN, of Geo.

"Hot Springs, 14th August, 1837."

"Hot Springs, August, 1837.

"To Dr. Goode:

"Dear Sir,—I give you the following statement of my case. About ten years ago I became dyspeptic, and was unwell in the usual way, when at length I became much worse; almost every thing taken in the stomach produced pain, and frequently violent spasms, which

threatened death. I experienced no relief except when under the influence of calomel. Tiring of which, after suffering for about two years, I determined to try the Sulphur Waters.

"I commenced at the White Sulphur, but the water disagreed with me, and I then went to the Salt Sulphur, understanding that the water there was more purgative; for you must know that my bowels were invariably constipated. After using the water for two days, I had a violent attack of spasm, which was relieved by a hot bath. I then came immediately to the Hot Springs. My stomach was so much debilitated that I was compelled to live exclusively on milk and mush, and the like bland food. The first meal I took at the Hot Springs was milk and mush, which brought on pain, threatening spasm. I went immediately to the Spout bath, and from that day to this I have been entirely exempt from the disease. I bathed every day, sometimes twice, and in a few days I was enabled to eat of every thing at the table, including dessert of all kinds. WILLIAMS CARTER,

of Hanover."

"Baltimore, 12th February, 1839.

"Dear Sir,—In compliance with your request, I transmit you an account of my case. In the latter part of 1836, I had a violent attack of cholica pictonum, or white lead disease; which, in despite of the most energetic treatment, terminated in a paralysis of my arms and hands, which deprived me almost entirely of the use of them, with great emaciation and general debility and prostration.

"All remedies failing, my medical advisers recommended a visit to the Virginia Springs. Thither I repaired in June, 1837, and passed two weeks at the White Sulphur Spring, but without any evident effect from the use of the waters. At the end of two weeks I removed to the Hot Springs, and commenced the use of the Spout bath immediately. In a few days there was evident improvement in my condition, and after six weeks (using the Spout bath every day) I found the use of my hands and arms and my general health restored. The use of my hands and arms has never failed me since, nor does there appear to be a vestige of my disease in my system.

"My friends and myself attribute my re

covery entirely to the waters of the Hot Springs. Very respectfully and truly yours,

CHARLES S. LEWIS."

"Lynchburg, Feb. 5th, 1839.

"Dear Sir,—I received on yesterday your message from Mr. Seth Ward; it affords me pleasure to comply.

"In the years 1828 and '29 my daughter had a severe, protracted, and complicated illness. The whole of one side became greatly paralyzed, and so continued for about fifteen months. In the season of 1829, we took her to the Hot Springs; she used the bath between three and four weeks. During the latter part of the visit, she was enabled to move the toes in a small degree. Under the direction of her physician, Dr. G. A. Rose, she gradually improved, but remained unable to move alone. The next season, A. D. 1830, we took her again to the Hot Springs.

"By the use of the bath she soon became able to walk; her general health gradually improved. She is now healthy and active.

"Yours respectfully, WM. S. REID.

To Dr. Goode."

"Hot Springs, 7th August, 1833.

"Dr. Goode:

"Sir,—The case of rheumatism you desired the particulars of was that of Mr. J— C—, of Charleston, S. C., aged eighteen years. He had been seriously afflicted for some time before he was put under my protection, which was on the 17th day of June, when we left Charleston for the Virginia Springs. We arrived at the White Sulphur on the 28th of June, and remained there until the 9th of July, taking from eight to ten tumblers of the water daily.

"On the 9th of July we reached the Hot Springs, and on the 10th he commenced with the baths, taking the Spout bath one day and the Sweat bath the next, alternately, until the 22d of September. From the time Mr. C— left Charleston until he arrived at the White Sulphur, he was as helpless as a child, unable to dress or undress himself, and was carried in arms or a chair whenever it was necessary to move him. Three or four days before he left the White Sulphur, he was able to hobble a short distance by the aid of a pair of crutches, and in two weeks after taking the

baths at the Hot Springs he could walk about *without* them. He arrived in Charleston about the latter end of September; and during a heavy blow, assisted in furling the topsail of a schooner in which he was a cabin passenger.

"I left Mr. C— in good health on the 6th of July last, on the wharf in Charleston, when I embarked on my present excursion.

"I am respectfully,

"Your obedient servant,

"J. Lockwood."

Nothing has occurred with respect to this valuable watering-place, since the first edition of this work, which calls for much detail. Every year, indeed, adds to the list of cures effected here, but it would answer no good purpose to multiply cases. Those given are deemed sufficient, and besides, Dr. Goode has published a great number which the visiter can always procure. No important improvement has been made within the last three years, as, indeed, there has not, at any of the Springs. They have all encountered a shock such as, we trust, they will not again experience. Some of the proprietors succumbed to

the storm; all have been staggered; but it is to be hoped that Virginia will, at length, do justice to herself; and should that ever be the case, the swarms that now visit Northern Springs will turn towards a more salutary *hive*. As monopolies, however, the Virginia Springs cannot attain that degree, either of comfort or appreciation, which they would attain as villages having several independent houses of entertainment, and the use of the Springs being left free. The proprietors are not, in every instance, well qualified to give satisfaction in its full extent. During our late visit to the mountains, circumstances prevented our making any stay at the Hot Springs; we cannot, therefore, say anything of their management from personal observation. We never heard a breath of complaint against the fare and comforts of the establishment; hence we infer that all was as it should be, for men are prone enough to find fault, and sometimes on very slight grounds. But it would not be candid to deny that complaints long, loud, and reiterated are made against Dr. Goode's charges. First, then, as regards the charge for board, we understand it is the same as at the Warm Springs and White Sulphur. So far,

there is no reason for attaching odium to Dr. Goode. He only does what others do,—and he certainly has a right to set his own price on his accommodations. The Salt, Red, and Blue Sulphurs, and the Sweet and Red-Sweet Springs, have, we think, judiciously, reduced the charge to eight dollars per week, and if the boarder remain several weeks, we believe, he is charged at some of those establishments, only seven dollars. The facility of travelling at the North, and its relative cheapness, are drawing to that region much of the custom formerly enjoyed by the Virginia Springs. Now, we would respectfully suggest to the proprietors that their true policy is, to do all *that can be done* to attract back again their old friends. Let them not go to work to undermine or cast odium, one upon the other; but let them hold a meeting early in the spring, and arrange a schedule of charges such as will afford them a fair profit, and publish those charges to the world. Let them also call together the contractors on the different routes to their Springs, and obtain a reduction of fare on those routes, or pledge themselves to encourage opposition lines. If they conclude to reduce the board and stage fare twenty per

cent., from the present maximum, our word for it, they will congratulate themselves, next autumn, upon having adopted our suggestion; if they will not do this now, they will try to do it when it is too late. But to return to Dr. Goode. It is complained, that besides charging ten dollars for board, per week, he charges in addition, for meals furnished at the cabins. It is apparent that the propriety of this charge depends altogether upon the fact whether the individual is able to appear at the public table, or not; if he is, and is disposed to produce unnecessary trouble and expense, he ought to pay for it; but if he be an invalid, it is misfortune enough, without any additional tax. It has been further said that Dr. G., in his professional capacity, has forbid patients going to the table, and then made extra charges for the meals so furnished. We trust this is not so; but if it has happened, most undoubtedly it is good cause of dissatisfaction. Such reports should be listened to with great caution, for alas! there is too much proneness in human nature to exaggerate every supposed wrong. Again, it is complained that Dr. G. charges for his baths fifty cents each, or $3.50 per week, without any

distinction whether it be a mere pleasure bath, or one requiring aid and attendance. They argue thus: "We come exclusively for these baths; there is no other attraction; they are supplied by nature, cost nothing in the preparation, and should not be subjects for an exorbitant tax; we can get an artificial and most comfortable bath, in the cities, for 25 cents, and here, where thousands of gallons of warm water are, every minute, discharged from the bowels of the earth, we think it hard to be charged double." We confess we think there is some reason for this complaint, and we sincerely hope, for his own sake, that Dr. G. will revise and modify his tariff of bathing charges. There is no reason in the world, why his *pleasure baths* should cost more than at the Warm Springs and Sweet Springs—12½ cents; but the Sweating baths are troublesome and attended with expense, and it would be unreasonable to expect the charge should not be higher. With regard to the charges of rudeness and inequality of temper urged against Dr. G. we cannot judge of their justice; but we *can* aver, that we have never witnessed any thing in his demeanour that did not comport with a well-bred gentleman. We

have touched upon subjects of a delicate character in the preceding remarks; but they are well meant, and we hope they will be so understood. Most of the visiters of the Hot Springs are invalids, and necessarily have whims and caprices which require kindness and forbearance. It is astonishing how far a word or act evincing sympathy and good feeling will win their gratitude and soothe their fretfulness; while a short answer, or an indifference manifested to their comfort, will arouse their undying hatred. No situation therefore requires more of the milk of human kindness than that occupied by Dr. Goode. He should be the physician and *friend:* always cheerfully administering to the physical comforts and mental quiet of his guests and patients, and causing them to bless him upon their departure. When Dr. Stribling of Staunton, a few months ago, signified a disposition to resign his situation of Physician to the Insane Hospital, there was a general feeling of regret from one end of the State to the other. Why? because the impression had become general that his benevolence and conciliating manners peculiarly qualified him for the responsible trust reposed in him. We venture to assert that if

he were the owner of the Hot Springs and its physician, it would in three years number 300 visiters at one time, when now it seldom passes 100. We believe that so conducted it would prove a blessing to multitudes. We perceive that Dr. Goode offers the place for sale; we do not know his price, but of this we are sure, that there are few estates in Virginia of greater intrinsic value.

CHAPTER IX.

SWEET SPRINGS.

The Sweet Springs are situated on the head waters of Dunlap's Creek in the county of Monroe, in a delightful valley, the air of which is pure and dry.

"These waters (Col. Perkins) were discovered before any of the Mineral Waters in this part of Virginia were known, in 1764. In 1773, they began to be noticed as a watering-place, and in 1774 were analysed by Bishop Madison, the President of William and Mary College, but which analysis I have not seen. The water is at 73° Fahrenheit; the baths for both male and female visiters are under the same roof, divided by a brick wall in the centre, and each about twenty feet square, and the water four and a half to five feet deep. In plunging into these waters a slight shudder, which in my case, and indeed generally, was succeeded by a delightful

glow. One is very much induced to linger in the bath, but five to ten minutes, in most cases, are found better than longer."

The residence of the visiters has hitherto been in the cabins or log-houses which were formerly the dwellings of all who visited any of the Virginia Springs. Dr. Lewis has just now finished a house which for architectural beauty and accommodations is superior to any house built for the same use in the United States, *that I have seen.* It is built of brick, has two stories besides a basement, which is appropriated to kitchen, bake and store rooms, with offices for various purposes; the piazza 17 feet wide, the whole length of the building, stands on brick arches, and is reached by three sets of steps of black walnut, the width of each of the porticos by which the front of the building is ornamented; the principal story has a dining-room 160 feet long, at one end of which is a ladies' drawing-room, and at the other end a dancing-room; they are each the whole width of the building, which is 48 feet, and 40 deep.

"In the second story, there are 36 bed rooms, with an entry between them; they are

about 14 feet square. The building has quite an imposing appearance.

The other improvements consist of a number of brick and framed cottages, sufficient to accommodate 350 persons. Dr. Lewis has been very fortunate in the selection of his managers. Last season the management was in the hands of our old and worthy friend Major Vass, whose kind and conciliatory disposition, added to a minute knowledge of all that appertains to his business, has always rendered him popular. The fare at the Sweet Springs during the visiting season is uniformly good, and the servants are kept under good management. Dr. Lewis is extensively engaged in farming; and having a fertile estate attached to the Springs, he is enabled to raise plentiful supplies of the great staples of domestic consumption.

"The best example of the acidulous class of water (Bell) is the Sweet Springs in Monroe County, Virginia. They are 29 miles from Fincastle, 40 from the Red Sulphur, 22 from the Salt Sulphur, 20 from the White Sulphur, and 43 from Bath Court-House.

"The Sweet Springs rise on the north side

of a large mountain called by the same name. The south side is covered with stones of an ochrous appearance. In many places iron may be found, but on the north the mountain is fertile and covered with a rich mould, at least, near the Springs.

"The temperature of the Sweet Springs is 73° Fahrenheit, the same as that which in England by a strange blunder is called Bristol Hot Well. There is a considerable resemblance between the two in other respects, as well in the abundant evolutions of carbonic acid, as in the earthy and saline matters held in solution. In the Virginia Spring, however, iron has been detected, whereas the British Hot Well has none in its composition.

"Few mineral waters have acquired such fashionable and well merited celebrity as the Sweet Springs. The name is calculated to convey erroneous impressions of their taste, which is like a solution of a small quantity of a calcareous or magnesian carbonate. The excess of the carbonic acid, however, gives the waters a briskness productive of a very different effect on the palate from what an imperfect mixture of the earths would pro-

duce. The first effects of this water, due to its temperature and gaseous contents, are a feeling of warmth to the stomach, with the sensation of fullness of the head and some giddiness. Taken at stated intervals, in moderate quantity, it will produce a moisture on the skin and increase the flow of urine. If the stomach be in a good state, it gives additional appetite, and imparts fresh vigor to the system. Its operation on the bowels varies at first; but after a protracted use it will generally be found to induce a costive habit."

The waters of the Sweet Springs are highly stimulant, and are therefore inadmissible in most cases of inflammatory disease or in turberculous pre-disposition, and other affections of the lungs and bronchi. They quicken the circulation, impart tonicity and vigor to the system, excite the animal passions, cheer the spirits, and inspire the mind with pleasureable sensations. Aged persons, especially, who are free from organic disease, will find youth and vigor and elasticity at the bottom of this noble fountain. A man who could have an opportunity of daily plunging

into the Sweet Springs Bath might live to the fabled age of the crow. We cannot conceive any thing more refreshing and exhilarating than this bath, when it is appropriate to the case; but the system must be free from inflammatory action, and rather tending to *atony* than to the opposite condition. We would not advise a person of sanguine temperament, whether male or female, to use this bath; nor would we permit females who may by any probability be in a *delicate condition*, or who are liable to severe periodical hemorrhages, to use the water internally or by bathing. There are conditions of the uterine functions in which they *may* be used with marked advantage, but such cases require medical advice of the highest character, and that too on the spot, where contingencies may be met by suitable treatment. In certain cases of dyspepsia, and in some nephritic affections, this water is very valuable; in fine, it may be said to be a good servant, but a bad master.

There is one practice at this Spring so pernicious, that it cannot be too severely reprobated; we allude to deep potations of mint

julap and other spirituous mixtures, after coming from the bath. Incalculable injury may be done by this abuse, and we have little doubt that many of the cases said to have been injured by the water and bath, may fairly be traced to mint julaps.

We have, ourselves, good reason to speak highly of this water. In 1823, we spent several weeks enjoying the luxury of bathing here with the most decided benefit to our system, enfeebled by application to business and other causes. In 1829, however, after hemorrhages and other symptoms of pulmonary disease had made their appearance, we were excited by it to a fearful degree, and had to abandon its use.

These Springs and the estate attached to them have passed out of the possession of the late proprietor, Dr. B. Lewis, and are now under the control of the Chancellor, who orders them to be annually rented out by the sheriff to the highest bidder. For the last three years, they have been managed by annual renters—a condition of things highly injurious, in every point of view, to this lovely retreat, which, in natural scenery, surpasses even

the White Sulphur. Col. Perkins, whose taste cannot be questioned, expresses admiration of the *Great Building*, at this place. The design is probably good, and the appearance is imposing; but its location was most unf rtunate, as it eternally mars the most enchanting valley in the Virginia mountains. In an expenditure of some sixty thousand dollars, how much better it would have been to employ anarchitect acquainted with landscape, even if it had cost something more. The house remains in an unfinished state, and like all houses so left, without an owner, it is already evidencing dilapidation; and, should the decision of the questions now in litigation be delayed many years, its decay will be rapidly progressive. That property, once the most highly valued in the mountains, has suffered great depreciation from those causes, and whenever brought into market, will be offered under great disadvantages. We have already given our opinion of the magnificent Baths at this place, which, under all disadvantages, attracted a large company last summer. The house was kept, and very well, too, as we understood, by Mr. Henry Massey.

RED-SWEET SPRINGS.

At a distance of one mile from the Sweet Springs, on the road leading to the White Sulphur, is the Red Spring, owned and very recently improved by Philip Rogers, Esquire.

To those who have been in the habit of visiting the Virginia Springs, this gentleman, some fifteen or twenty years ago, was favourably known as lessee of the Sweet Springs, and a kind and accommodating landlord. We have not ourselves forgotten his blunt but cordial manner, and the hospitable treatment which we received in common with all his guests.

The Red Spring is a chalybeate, and a most powerful agent in cases that admit a tonic treatment. This is an advantage which this establishment possesses over its neighbour, having, besides, the same kind of water which is so abundant at the "Sweet Springs." The acidulous or "Sweet" waters, at both establishments, seem to be so much alike, that there can be no essential difference between them, and as they are situated in an abun-

dant region, and on the great thoroughfare connecting Eastern Virginia with its trans-Alleghany territory, we hope that notwithstanding their proximity, they may both do a good business.

The situation of the "Red Spring" is a beautiful one, overlooking one of the most fertile and best cultivated farms in Virginia. The celebrated Beaver-dam falls are on this farm, and about a mile and a half from the Spring.

The original name of these Springs was "*Red Springs*," but, in consequence of mistakes frequently having occurred in the direction of letters to this place, and the Red Sulphur, the name at the head of this article, has been adopted. Since the first edition of this book appeared, this property also has changed owners, and is now in possession of Richard Sampson, Esq., of Goochland, and his son, Mr. John R. Sampson. The father and son rank among the best farmers of Virginia, which is some security that neatness, order, and system, will prevail through the establishment. At

this place we spent the greater portion of our time, during the last summer, and we feel great pleasure in testifying to the excellence of the fare, the comfort of the chambers, and the polite attention of Mr. Sampson, Jr., and his manager, Mr. Powel. In every thing that conduces to comfort it compares favourably with the best conducted establishments in the mountains. The improvements now made will comfortably accommodate sixty to seventy persons. It is the intention of Mr. Sampson to extend his accommodations for the next season to the capacity of 120. The main building here is of frame, and judiciously designed as regards convenience, but being thrown across the valley, as in the case of the Sweet Springs, it is destructive of the natural beauty of the locality. It contains thirty comfortable chambers, a ball-room, dining and bar-room, and has two galleries of two stories, extending the whole length, communicating at intervals by open passages, in which there are stairs leading to both stories. Nowhere have we seen a more convenient arrangement than this. It has but one fault, and that is, that the double rooms communicate length-

wise, instead of enjoying the advantage of both porticoes and the delightful draught that passes through the valley.

The great Red Springs, which are most relied upon for bathing, issue from a limestone stratum covered to a considerable depth by a soft porous stone, apparently a deposite from the Sweet Spring stream, which seems to have once taken this direction. There are three springs, of which the upper and boldest seems to differ in composition and temperature but very little from the Sweet Springs. The two others close by, and separated from each other by a thin partition of rock, differ materially in the quantity of iron and temperature from the first, the temperature of those being $76\frac{1}{2}$, while that is only 73. All, together, would probably discharge 250 gallons in a minute. The two lower only are now conveyed to the Bath. This is a frame octagon about 20 feet in diameter, and admitting a depth of water of five feet. The water is conveyed by a trunk to the reservoir, and by reducing the depth of the bath to four feet, affords the finest spout imaginable. After swimming about for two or three minutes, it was our custom to

place ourself under this noble stream and let it fall on our chest and shoulders. We never were tempted to remain in *longer* than five minutes, we then got up on the platform, took in our own hand a towel and dried our head and neck while a servant was engaged in rubbing the body with all his might. In two minutes, when the water is likely to suit, the skin becomes as red as crimson under this operation, and the person feels as if he could jump over the moon. We are disposed to think that *some* of the cases in which there is no reaction are attributable to bad rubbing and permitting the body to get chilled. We would strongly recommend to Mr. Sampson, who informs us he is going to take away the present house, and build separate bathing places for ladies and gentlemen, as at the Sweet Springs; to have two rubbers instead of one—a man and a small boy for the gentlemen; and a maid and little girl for ladies. After getting out of the bath, the person should be made to stand on a platform two feet square and about six inches elevated from the floor. In this should be some grooves to carry off the moisture from the feet, the junior

rubber should then kneel down and with a coarse towel dry perfectly the legs and feet, while the bather and aid are employed on the head and trunk. With one rubber, the feet are apt to be left too long wet, and the circulation is thereby delayed from the inferior capillaries. Where there are so many young negroes doing nothing, it would be no additional expense, and would greatly benefit invalid bathers. A few paces from the house there is a large and very pleasant bath similar to the Sweet Springs; it was, however, but little used, most persons preferring the higher temperature of the Red Spring. The difference is very perceptible to the feelings. Both are delightful after the shock of the plunge is over, which in the Red Spring water is slight. Our experience of the two baths, which we used for the purpose of experiment, causes us to give a decided preference to the Red Springs bath. We are disposed, however, to think that its advantage lies more in the higher temperature than in the carbonate of iron it contains, though we can readily believe that this property may increase its tonic power.

Whether it be so or not as applied to the skin, nineteen out of twenty will think so. As a drinking water, its tonic property is acknowledged, and where such an agent is desirable it is not surpassed on the habitable globe.

After we had transmitted the article on the Red-Sweet Springs to the printer's, we received from the worthy proprietor the following letter and Analysis. They will be read with interest by the admirers of that lovely valley, and all who desire to avail themselves of a bath possessing tonic powers nowhere surpassed.

"Red-Sweet Springs,
"Alleghany Co., Feb. 16th, 1846.

"My Dear Sir,—I am now erecting a continuous line of framed house (one story high) one hundred and sixty feet long, by twenty-one feet in width, containing twenty-four (fire) rooms, ten feet by twelve feet in clear, and all upon the same level, with a neat portico in front the entire length. I have removed the house from the Bath near the hotel, and I mean to convert the bath into a pool with a railing around it. In the place of this I shall

make two spacious baths sixteen by twenty up at the Red Chalybeate Springs. A new walk from the centre of the hotel towards these Springs, together with other improvements not only about the hotel, but in the road, fences, &c., I hope will add both comfort and pleasure to my future visitors.

"I have tested the relative temperatures of the Springs by a thermometer purchased of Mr. Randolph in Richmond, made by M'Alister of Philadelphia; and find them to be as follows. The Upper Spring, which discharges much the greater portion of the water, I find to be 77°. The next, or Middle Spring, 80°, and the Lower, or one nearest the Bath-house, 79°. These three Springs, discharging three hundred and fifteen gallons of water per minute by measurements this day made, will be blended into one stream, and then divided between the two Baths, which will make their temperature about 78°. I have also tested the two Springs near the hotel, both of which stand at 75°. The temperature of the pool is 74°, and this difference is caused by several little limestone springs emptying into it. This pool

discharges two hundred and twenty gallons per minute. I remain, dear Sir,

"Your most obedient servant,

"JNO. R. SAMPSON.

"Mr. William Burke,

"Richmond.

"P. S.—Below you will find a copy of the Analysis by Prof. Rogers, taken from the copy recorded in my Register at the Red Springs.

"J. R. SAMPSON."

1st. Solid matter procured by evaporation from 100 cubic inches, weighed after being greatly dried at 112°, - - - 40·76

A portion of this is combined water.

2nd. Quantity of each solid ingredient estimated as perfectly free from water. In 100 cubic inches,

Sulphate of lime - -	14·233
Sulphate of magnesia -	3·107
Sulphate of soda - -	1·400
Carbonate of lime - -	9·411
Carbonate of magnesia -	1·166
Chloride of sodium - -	0·037
Chloride of magnesium -	0·680
Chloride calcium - -	0·010

Susquioxide of iron - - 0·320
Organic matter in small quantities.
Iodine, a mere trace.

The iron is no doubt dissolved in the water as a carbonate.

3d. Volume of each of the gases contained in a free state in 100 cubic inches of the water.

Carbonic acid - -	46·10 cu. in.
Nitrogen - - -	2·57 " "
Oxygen - - -	·20 " "

Sulphuretted hydrogen, a trace too small to be measured.

4th. Composition of 100 cubic inches of the mixed gases rising in bubbles in the Spring.

Nitrogen - - - -	62·5
Carbonic acid - - -	37·5

THE SKIN.

Before we take our leave of the thermal and acidulous waters, we desire to say a few words on that beautiful organ which, above all others, distinguishes man from the inferior animal creation, and which in lovely woman frequently attains such exquisite perfection as to place her second only to the angels.

The skin being one of the great safety-valves of the body, though perhaps the least regarded by the great mass of mankind, and especially so by that portion of it yclept "the Anglo-Saxon race," is amongst the most important organs of the human body.

Had Nature required of the kidneys to secrete all the impurities of the circulation, they would be inadequate to perform the labour at least without vastly more power than they now possess; she has, therefore, in her wisdom, invested the external covering of the body and the mucous surfaces of the internal organs with an exhalant apparatus that frees the blood from those serous portions that are no longer necessary for the nutrition of the body, and from an excess of carbon and other matters that might deteriorate its quality, just as the absorbent system appears to have been intended to introduce new and alterative materials into the system for its comfort and sustenance. How deeply the skin sympathises in all important lesions of the great organs of the body is known even to ordinary observers, yet it *has* never received from the faculty that consideration to which it is entitled.

It is, perhaps, not because they are not fully sensible of its importance; but because they despair of reforming the habits of the people in the most essential point connected with the healthy condition of this organ. The march of improvement, however, is onward, and we should never despair of effecting a reform so obviously important as that of cleanliness. Who would have thought twenty years ago, that five millions of a people proverbially addicted to intoxication would, at this day, exhibit an example of temperance which throws into the shade all the reforms of modern times?

In our southern country especially, there is an urgent necessity for frequent ablutions, owing to the relaxed state of the system, produced by intense heat, and the consequent evaporations of the serous portion of the blood through the superficial covering of the body. In such a condition of things, the balance between the excreting functions of the skin and kidneys is destroyed, and the former has to perform a duty, which eventually overpowering its energies, its action becomes morbid, and it is no longer able to resist either the impulse from within, or the sudden depres-

sion from cold to which it is exposed from without, by extraordinary and sudden vicissitudes of temperature.

We know, however, from the experience of eastern nations, that like all other hygienic principles, the salutary practice of bathing is liable to abuse. Carried to excess, and accompanied by the use of powerful narcotics, it is pernicious to the physical, mental, and moral energies. It should, then, be resorted to not exclusively as a luxury, but as a means of cleansing the skin from accumulated impurities, and encouraging a just proportion of the fluids to the capillary circulation.

The manly exercise of swimming, when it can be practised, cannot be too strongly recommended. In the palmy days of Rome, the river Tiber was not permitted to roll its waters to the sea neglected and unheeded. It was the constant practice of the Roman citizens to disport in its bosom, after they had anointed their bodies as a protection against the coldness of the water. Of its efficacy in procuring sleep we are assured by the satirist:

"*Ter uncti*
Transnanto Tiberim somno quibus opus est alto."

With regard to the wealthy, who are able to afford themselves all the conveniences of bathing, if they do not avail themselves of their advantages it is their own fault, and deserve no sympathy; but it is otherwise with persons of moderate circumstances living in cities, and workers in manufactories. Their health demands the care of the public authorities, and of their employers. One hundred thousand dollars would construct in the city of New York five floating baths, that would accommodate ten thousand persons in twenty-four hours; and these, at a charge of three cents each, would yield a revenue of more than one hundred thousand dollars a year.

In the manufactories of this country, which have almost all extensive water-power, how easy would it be to provide a large bathing chamber, in which all the labourers, male and female, should be required to bathe at least once a week. It would be easy to raise the temperature of the water to about 85 or 90° F.

In an establishment giving employment to two hundred persons, five cents a week deducted from the pay of each would amply pay the proprietor, and in a mere *pecuniary* point

of view would be a saving to the labourers, who may thereby be saved from many ailments that cause loss of time. But we would not stop here: we would recommend to the legislatures, whenever application was made for an act of incorporation by a manufacturing company, to insist on a proviso obliging the corporators to provide a convenience such as we have described, and to insist on its use. Whenever temperance shall have become universal, and conveniences for bathing shall have been furnished to the great mass of the inhabitants of cities, and the more enlightened and opulent portion of the community will have by their own example induced the poorer class to adopt this great hygienic practice, we may look for an advance in the average of human life and human *morals*, which now might seem unattainable.

It is unnecessary to particularize the various chronic affections of the skin. From the earliest periods in which we find accounts of sulphurous waters, they have been celebrated for the cure of this class of diseases. As it is the sulphuretted hydrogen that is the active property in these cases, there can be little dif-

ference in favour of any particular Spring, used merely as an external remedy, in which light we are now considering this class of agents; but of this we are certain, that persons afflicted with cutaneous diseases will in most instances fail to realize their expectations if they depend *exclusively* on the thermal waters. It has been a long established custom, and one the correctness of which has been tested by experience, to spend the early part of the season in using the sulphurous waters, and the latter part at the Hot, Warm, and Sweet Springs. These latter agents will indeed, of themselves, relieve slight affections of the surface; but it should be recollected that most chronic diseases of the skin are dependent on visceral derangement, and that no external application will remove the exciting cause. We *know* that sulphuretted hydrogen is possessed of such subtle power that it pervades the whole animal econony, and alters or modifies the fluids from which those diseases are propagated.

It is indeed essential that the use of the sulphurous waters should be combined with the simultaneous use of bathing in the mineral

water, and this is now attainable at all the Sulphur Springs of Western Virginia. When the system has been saturated with the sulphurous waters, then may the natural baths be used with double advantage; and we are sure we do not risk the charge of extravagant laudation, when we assert that the world cannot produce three fountains superior to those of which we have been treating in the foregoing pages.

CHAPTER X.

WHITE SULPHUR SPRINGS.

"THIRTY-FIVE miles from the Hot Springs (Col. Perkins) are the celebrated White Sulphur Springs, which are visited by those who are in search of pleasure, as well as those who are in want of the waters. The accommodations for visiters to this place are much more extensive than at any of the other watering-places in Virginia; the views are more beautiful, and visiters much greater in number, than at the other Springs. The amiable owner of this delightful spot, though he takes no active part in the management of the concern, has an excellent representative in his son, Wm. B. Calwell, Esq., who has been fortunate in selecting as his principal executive aid, Mr. King, whose obliging attentions and courtesy are acknowledged by all who know him."

The accounts given of this establishment

have been so frequent, and so extensively circulated, that minuteness of detail is unnecessary. The accommodations are sufficient for the entertainment of five hundred persons, together with the usual proportion of servants and horses. More than *six hundred* are said to have been taken in, but when the guest has to be crammed into a room with some half dozen others, it is not so much accommodation as *making shift*. We are informed that the establishment *proper*, Mr. Mastin's Hotel, and Mr. Rosser's, will all accommodate seven hundred persons. When we first visited this place in 1823, it was in a very rude state, although entertaining at that time from one hundred and fifty to two hundred and fifty persons, principally lodged in comfortless log cabins.

From 1834 to the present time the improvements have been extensive, and many of them beautiful; but there is such a glaring want of *design* in the arrangement of the buildings, that it is painful to a man of taste to observe how nature has been marred by the *want of art*. It is in a great degree irremediable, too, for it would be now difficult to make any im-

portant alteration without great expense and destruction of valuable property. As, however, a woman may be beautiful *in spite of her teeth*, so is the White Sulphur, notwithstanding the defect we have mentioned. The many handsome cottages built by or for certain individuals, have added much to the interest of the landscape, and upon the whole this charming spot may be considered as possessing attractions which are rarely presented to the traveller. So much has been said respecting the fare at this place, that some allusion to it will not be deemed irrelevant.

The keepers of watering-places are differently situated from persons who entertain company the whole year. They have to make extensive arrangements for a short period, and while their company is at its maximum not more than one month, they are obliged to keep in pay double the number of attendants necessary for the average, many of whom feel but little interest in their employers; and they have, besides, to provide supplies at great expense and inconvenience. They are entitled to great allowances under all the circumstances; but few persons, how-

ever, receive less indulgence from a *discerning* public. In the case of our friend, Mr. Calwell, a *thousand* eyes are emphatically watching, if not the *fleece*, certainly that which was once covered by it: and after it has been served up, for the equal participation of all, Cæleno and her frightful sisters made not greater havoc among the eatables of the hungry Trojans than the sable sons of Africa make upon the dishes at the White Sulphur:

At subitæ horrifico lapsu de montibus adsunt
Harpyiæ, et magnis quatiunt clangoribus alas.
Diripiuntque dapes, contactuque omnia fœdant
Immundo: tum vox tetrum dira inter odorem.

As soon as the dishes are placed on the table, the private servants and those of the establishment that are bribed, seize upon the best of the eatables and place them as *private* property before their employers. It is a shameful abuse, and may be remedied by excluding all private servants, and allotting certain servants to certain sections of the table. Thus, under the ticket system, in a company ever-changing, it is not probable that one man would be waited on more than one day by the same servant, and he would

therefore find it too inconvenient to be paying a fresh bribe every day. This is the greatest evil at the White Sulphur, and will ever create confusion and dissatisfaction until corrected. All acknowledge the supplies are ample, though perhaps not so varied as at the other Springs; but between the causes just mentioned and the undignified impatience of the guests themselves, the scene is often ludicrous in the extreme.

The lodging-rooms are generally comfortable, and well supplied with the requisite furniture. The bathing establishment here is fitted up with great neatness, and obviates every objection hitherto made in respect to that convenience.

Wm. B. Calwell, Esq., who has the sole control of the establishment, is a bland and elegant gentleman, and his manager, Mr. King, trained to his calling, is in every respect qualified, and uniformly civil and obliging. We shall commence our notice of the waters with an extract from Mr. Otis' description of the Spring:

"The Spring bubbles up from the earth in the lowest part of the valley, and is covered

by a tastefully covered Pavilion, being a dome, supported by twelve Ionic columns, and surmounted by a graceful statue of Hygeia, the patron saint of healing, holding in her right hand a cup, as filled with water, and in her left a vegetable or herb. This statue was presented to the establishment by Mr. Henderson, a wealthy planter of Louisiana, who I believe went from New England. The Pavilion is surrounded by the grateful shade of old oaks, locusts, and elms; and hither resort, as to a common focus, the converging radii of the crowd, intent upon banishing disease or *ennui*, gaining health or admiration, displaying personal charms or sacrificing to fashion. The invalid, pale, emaciated, and wretched, may be seen there at almost every hour, waiting till the giddy dance of the gay and volatile, who came there merely to gratify 'a truant disposition,' shall leave the waters free for him to drink and be healed. The feverish flush, the hectic of consumption, the tottering gait of rheumatism, the wasted form of the dyspeptic, may all be observed in contrast with the ruddy glow of manly health, the free elastic step of youthful vigor, the gay smile of

unpained hearts, and the loud laugh of mirth that knows not even the check of another's sufferings.

"At about an hour before dinner, the fashionable lounge at the fountain commences. Then also commences the playing of the musicians in the ball-room, a fine band of performers, who amuse the visitants to the Springs an hour at noon, and divide with the waters the attention of the promenaders."

For the analysis of the White Sulphur water, as given by the Dispensatory of the United States on the authority of Professor Wm. B. Rogers, we refer to page 47. Whether we consider it as a gaseous or saline water, we find it falls greatly short of many of the waters of Europe and this country. But does this argue that it is inferior in curative properties? By no means. There may be too much of a *good thing* in mineral waters as well as in other matters; and this is manifested by all conversant with this class of natural remedies. Harrowgate (England) water contains, in a wine gallon, sulphuretted hydrogen 14 cub. in., or $5\frac{3}{5}$ as much as the White Sulphur, and while the solid contents

of the White Sulphur in a gallon are 122 grs., those of Harrowgate are 859 grs. Is the latter then a better water than the former? We should more than doubt it. Saratoga water (Congress Spring) contains, in a wine gallon, gaseous contents 318 cub. in., and solid contents nearly 598 grs.; yet will any one rank Saratoga water with White Sulphur water as a curative agent? As we have already stated, it is the *combination* that makes the mineral water valuable. It is because that combination is adapted by nature in her mysterious laboratory to the animal economy, that disease yields to its sway; but let man endeavour to improve upon her work by abstracting from or adding to her proportions, and she will soon show which is the better apothecary.

If the estimation in which the White Sulphur water is held, in the United States, be any evidence of its merit, it needs no other eulogy; for it is well known that its fame has spread to every portion of the nation. It is indeed a noble fountain, destined, we hope and trust, to be a blessing to countless generations. It may be abused, as all other reme

dies ; but where it is the *appropriate* remedy, and is correctly introduced into the system, it is most valuable. Where it is *not* adapted, it is no less productive of great and permanent mischief.

Feeling deeply the great value of this water to the public, and solicitous that its fame may not be even temporarily affected, we feel it a duty we owe to the worthy proprietors of the fountain, as well as to the community at large, to notice a theory which has been lately sought to be established respecting it, and which, if true, renders it liable to be successfully imitated by any one who can mix with common water the different portions of saline matter discovered by its analysis. We allude to the theory set forth in a pamphlet by Dr. J. J. Moorman, resident physician at the Spring. We disclaim any intention of affecting the interests of Dr. Moorman. He is personally unknown to us ; but since we have undertaken to present our views on those mineral waters, we feel morally bound not to sanction, by our silence, a theory fraught, as we believe, with injury to the reputation of this justly popular water, and with cruel

injustice to the poor invalids who seek benefit from its use.

In the discussion of this subject we will not impugn Dr. M.'s motives in propagating this doctrine. With these we have nothing to do. We are entitled to the privilege of questioning the soundness of his theories, and this we will do in good temper.

We subjoin the article of Dr. M. on this subject, so that we may not incur the charge of misrepresentation, and shall then comment on his positions.

[Dr. Moorman.]—"The reputation of the *White Sulphur Water* for its medical virtues is now so well known in every part of America, that it is thought unnecessary to enter into a general detail of the peculiar properties of the water and its applicability to particular diseases. It is believed that a more acceptable service will be rendered to the public by exhibiting satisfactory testimony, proving that those who are unable or unwilling to perform a journey to the Springs may use it at their own homes, and while in the enjoyment of the soothing cares and attentions of their families, with equally beneficial results as if drank fresh at the Spring.

To prove this we do not intend to enter into a scientific disquisition of the physical properties of the water. The fact is now generally admitted, that the *medical properties of the White Sulphur water reside mainly in its solid contents;* and as these solid contents are not deposited, or otherwise lost by exportation, the transported water *must retain* as much strength as that which is used fresh from the fountain. Numerous comparative trials, made with the transported water and the water fresh at the Spring, by intelligent and observant persons, and with strict reference to ascertain its strength in either way, have abundantly proved the truth of this position; not only establishing the fact that the water, after it had been a long time removed from the place, is equally as strong as that at the fountain head, but also that it may be used by the invalid with the same happy results.

That the White Sulphur water, when removed from the Spring and exposed even for a few minutes, parts with a portion of its uncombined sulphuretted hydrogen gas, is evident; but long experience in the use of the

water has satisfactorily proved, that its activity, far from being lessened, is ordinarily *increased* when the gas is evaporated. This fact has been so well ascertained, by those who are familiar with the use of the water, as to have established a common practice among such at the Springs, to *set the water in an open vessel* for twelve or eighteen hours, until its gas shall have escaped, before using it; others more expeditiously attain the same thing by gently warming the water: and by either of these precautions, the activity or the system is almost invariably increased, while at the same time, the water thus prepared agrees better with a greater majority of the patients, and may be taken with far greater impunity by most invalids.

The escape of the gas, which soon takes place after the water is taken from the Spring and exposed to the air, causes it to lose its *sulphuric taste and smell;* and one not acquainted with this characteristic might be induced thereby to believe, when using transported water, that a fraud had been practised upon him, and that, instead of sulphur water, there had been palmed upon him either river

or rain water. We know of some individuals who have been induced to decline its use from suspicions growing out of this circumstance, not being aware of the fact that *it is the gas alone* which imparts to the White Sulphur water its *sulphuric smell and taste*, and that this gas readily escapes unless great caution has been observed in the preparation and security of the vessel that contains it. *But whether this gas escapes or not is a matter of little or no importance, as the water is equally as salutary without as with it, and does not thereby lose its medical virtues.*

These facts, however, inexplicable as they may be to the common observer, will not astonish the intelligent medical man, who recollects that the *gas* thus thrown off is an active *nervine* stimulant, which, while it often unduly excites the feeble and nervous patient, delays by its stimulant effect the operations of the *salts* of the water. Nor is it singular that this particular stimulant should produce this effect, inasmuch as we witness the same thing, when any other active stimulant is administered with our eva-

cuant remedies; for who does not know that a purgative potion administered in wine, toddy, or any other diffusible stimulant, will ordinarily act less promptly and powerfully than when administered in water."

To sustain the above statement Dr. M. gives sundry certificates of respectable individuals who had used the water at a distance from the Springs. In denying the correctness of Dr. Moorman's assertions, and of the opinions of the gentlemen who have given certificates, we disclaim a shadow of disrespect; but with all due deference for their judgment, we believe that the latter have not given themselves time to consider that in proving too much they have proved *nothing;* and that the Dr. is naturally enough biased in favour of the creation of his own imagination.

We understand the theory in question originated in the following manner: Dr. M. some years ago entered into an arrangement with Mr. Calwell for transporting the water. It was attempted in bottles, but that was found too expensive, and the *idea* of barrelling was adopted. But here was a difficulty, the gas would escape. What was to be done?

Why, it must be shown that the gas was of no use, nay, that it was a detriment, and like "toddy or wine," an active *nervine* stimulant. It became necessary to prove that the water was better without gas than with it; and accordingly, Dr. M. recommends to his patients to let it stand in an open vessel 12 or 18 hours before use. Dr. M. tells you that it is a common practice to pursue this plan at the Spring; but we regret to perceive he has not the candour to acknowledge that *he* introduced the practice; and that no such practice was known from the days of Adam until the days of Dr. M.

We have already shown that, in mere saline matter, the White Sulphur is immeasurably below Saratoga, and hence the conclusion is inevitable, according to Dr. M., that Saratoga water is immeasurably superior to the White Sulphur. Nay, it is known to Dr. M. that the White is below the Salt Sulphur in saline matter; and does he therefore imply that the former is inferior to the latter? Would he directly concede this? No: yet it is plainly deducible from his theory. But the absurdity of the proposition is

self-evident, when the reader reflects that, if true, the great White Sulphur water is no better than may be made by any apothecary's apprentice behind his counter.

But we will prove to a demonstration that the positions taken by Dr. M. are in direct opposition to all experience and to the discoveries of science. Dr. M. says it is generally admitted that the "medical properties of the White Sulphur water reside mainly in its solid contents." Now we assert that no such thing is admitted; but just the contrary. We quote from that great chemist, Dr. Hare, the following paragraph bearing directly on this subject.

"Of sulphydric acid or sulphuretted hydrogen:

"Few persons are unacquainted with the unpleasant odour which results from the washings of a gun-barrel, made foul by the explosion of gunpowder, or that produced by putrid eggs. This odour arises from a compound consisting of one atom of hydrogen and one atom of sulphur. *The celebrated Sulphur Springs of Virginia are indebted for their odour, and mainly for their effi-*

cacy, to this compound, to which the celebrated Thenard has given the name of sulphydric acid."—(*Hare's Chemistry.*)

But Dr. M. says sulphuretted hydrogen is a *nervine* stimulant. We beg leave to quote the opinions of Dr. Armstrong on this subject.

"The first thing which struck me in regard to the operation of the Harrowgate sulphurous water was, that the bowels might be opened by it day after day, week after week, without debility being produced; nay, on the contrary, most of the patients gained both strength and flesh, notwithstanding they had daily and copious evacuations. This circumstance alone seemed to give the sulphurous water a most decided advantage over the purgatives in common use; for it must be admitted that they cannot be long continued in chronic diseases without diminishing the strength. For some time, therefore, I solely attributed the efficacy of the sulphurous water to its purgative property, together with the peculiarity that its long-continued exhibition caused no debility; and for a considerable period the complaints on which I prescribed were chiefly stomachic and hepatic, I was

the more confirmed in this opinion as to its operation. But cases of chronic disease fell under my observation at various times, in which the sulphurous water was most decidedly beneficial, and that too where the bowels had been but scantily moved; and as the effects in these cases could by no means be purely attributed to its action on the intestines, I was led to inquire whether it might not have some other agency which had escaped my observation. In attending more closely to the changes which the water induced, I found that it acted most powerfully on the secretory glands of the body, but more especially on the liver, on the kidneys, on the mucous coat of the intestines, and on the skin.

"Here a new operation was presented to my inquiry. In reflecting on all the facts which had come before me, I ascertained that this water had removed chronic affections of various internal and external parts: and hence at length the inference followed, that it was really beneficial as a very powerful alterative, and that it had a direct influence over chronic inflammation, wherever it be seated, whether in the viscera or upon the surface of the body.

In still further pursuing the consideration of the subject, I was fully satisfied that I had arrived at a general principle in the operation of the sulphurous water: for, some time afterwards, on trial of that at Dinsdale, near Darlington, I found that its effects were also very powerful in chronic inflammations, though it be but slightly laxative. It at once, therefore, occurred to me, that the *chief efficacy of the sulphurous waters of Harrowgate and of Dinsdale depended upon the sulphuretted hydrogen gas which they both contained;* and indeed the principal difference between the two waters is, that the first contains less of the sulphuretted hydrogen gas, but more of the saline ingredients than the last, so that by adding very small doses of purgative salts to the one, it may be made to operate like the other in many cases."

Again: "Chronic rheumatism and gout, and almost all cutaneous affections, will yield more readily to the continued internal exhibition of the *sulphuretted hydrogen gas than to any of the means now commonly employed;* not only in these, but also in most chronic complaints of the viscera, the recovery will

be considerably expedited by the frequent use of tepid baths which contain the sulphuretted hydrogen gas. At the same time, it is to be recollected that it is not upon one, but upon all the secretory organs, that it exerts a *special* influence; but certainly to the skin, as it is so capacious, a large portion of that influence is directed, and next in degree it is generally spent upon the kidneys, both of which circumstances make it so beneficial in cutaneous diseases, and in those of the urinary organs."

Here, then, is the opinion of Dr. Hare sustained by Dr. Armstrong, that the virtues of a sulphurous water *mainly* depend on the *sulphuretted hydrogen gas;* but Dr. Moorman throws it overboard without ceremony, as a worthless article. "But (says the learned Doctor,) *whether this gas escape or not is a matter of little importance, as the water is equally as salutary without as with it, and does not thereby lose its medical virtues.*" Whilst he asserts that the water is as good, nay better, without the gas, he tells us, "that *it is the gas alone* which imparts to the White Sulphur water its *sulphuric smell and taste.*"

He recognizes the presence of the sulphur in no other form in the water—he acknowledges that the gas escapes wholly by exposure to the air, and yet he recommends as a *sulphur water* that which is no more the same article it once was, than any plain well-water that may be obtained in the same geological district.

Had Dr. M. contented himself with claiming for his transported water some degree of excellence approximating that of the genuine water from the fountain, the tax on our credulity would not have been so severe; but when he admits the water has sustained a loss, and yet insists that it has benefitted by that loss, we cannot pass over in silence so monstrous a proposition. We can understand how half a loaf is better than no bread; but it will take better logic than that exhibited by Dr. M. to convince us that half a loaf is better than a whole loaf.

Before we quit this subject, we desire to say a word respecting the certificates given by gentlemen, many of whom we know and respect, to Dr. Moorman. They no doubt believed what they stated to be correct. They

meant to state that the *aperient* quality of the water was not impaired by the loss of the gas, but probably increased, in which we perfectly agree with them; but those of them who have used the word *alterative*, have probably used it as synonymous with *mildly purgative*, and have, therefore, said more than they intended. That the word *alterative* is thus restricted by some persons is well known, but it is not the legitimate signification of the word as used by medical writers.

An *alterative* is a remedy that by a scarcely perceptible disturbance of the excretory organs, alters some morbid function of those organs to, or towards, a normal condition. Whether the mucous membrane of the intestines, or bronchi, or the skin, or the kidneys, or the liver, or any other gland or surface, be concerned, we apply the word *alterative* to their gradual change from diseased to healthy action. From this view of the term it will be seen how improperly it is sometimes applied, and the instance now before us proves how, by the misapplication of a word, much mischief may be done. The explanation we have given proves satisfactorily that the worthy gentlemen who

have testified to the value of the transported water, meant only to vouch for its visible effects on the bowels, without once considering that the most important *alterative* effects are frequently *invisible*.

"The White Sulphur Springs (Bell) have been much resorted to by invalids suffering from dyspepsia, chronic hepatitis, the slow fever following remittent, bilious, or ill-cured intermittent fevers; chronic rheumatism, cutaneous diseases, uterine derangements, such as obstructed menstruation and fluor albus.

"In dyspepsia, unconnected with chronic inflammation and fixed pain of the stomach, these waters will have an excellent effect; and especially if, as is often the case in the middle and southern States, the disorder be connected with obstructions of the liver and enlarged spleen. Persons who have brought on dyspepsia by excess in eating too much mixed food, and drinking distilled and fermented liquors, if they restrict themselves to simple food in moderate quantities, and use no other fluid than the mineral and common water, have every thing to hope for by a residence of a few weeks at the White Sulphur

Springs. The jaundiced skin will here often receive its natural hue, the temper its wonted evenness, and most of the other unpleasant bilious symptoms, as they are called, will disappear by a suitable hygeienic course at this favoured spot. That state consisting in peculiar debility and nervousness, and cutaneous eruptions from the excessive use of mercury, will be removed by the same means."

We have little to add to the enumeration made by Dr. Bell of the diseases to which the White Sulphur water is applicable. It may be used with great advantage in most cases of visceral disease, and will be found useful in some cases of neuralgia dependent on dyspepsia. Nephritic disease produced by acidity will be benefitted by it, especially if combined with a small quantity of bi-carbonate of soda.

As it is highly stimulant, it is inadmissible in actual pulmonary disease, or in strong predisposition thereto, and has never failed to do mischief in those conditions of the system. In hepatic disease, its alterative power is much aided by occasional use of blue-mass in small doses.

We have already given such hints with re-

gard to the quantity of water proper to be drunk, and on diet and exercise, as we thought might be useful; we cannot profitably add any thing on these subjects, but to remark that they must be modified to suit the wants and condition of each individual.

Soon after the publication of the first edition of this work, a pamphlet was put forth by Dr. John Moorman, and gratuitously distributed, entitled "A Brief Notice of a portion of a work by William Burke, entitled 'The Mineral Springs of Western Virginia,' with preliminary remarks on the relative virtues of the Saline and Gaseous contents of the White Sulphur Water, by John J. Moorman, M.D., Resident Physician at the White Sulphur Springs."

We have heard that Dr. M. has chuckled a good deal at the fact, that we have never replied to his attempt to vindicate his "*theory*," and to ascribe to us selfish and unworthy motives, in attacking that theory.

Having placed before that worthy and discriminating gentleman, denominated "The Public," our view of the matter in question, and clearly, as we imagined, exposed an im-

pudent imposture, we saw no reason why we should take any farther pains to deprive the aforesaid personage of the exquisite pleasure of being humbuged. His attempt to fasten upon us unworthy motives, has fallen as harmlessly as the yelping of little "Tray," and we should not, at this distant day, have *noticed* his absurd and silly "*Notice*," but that we are called upon for a second edition of our work, and have therefore determined to amuse our readers with a few of his eccentricities.

His pamphlet thus begins:

"CHAPTER*

"*On the relative virtues of the Saline and Gaseous contents of the* WHITE SULPHUR WATER.

"SPECULATION has existed as to the relative efficacy of the different component parts

"* *This* CHAPTER *is a part of a work in manuscript, on the* '*Mineral Springs of Virginia*,' which has been lying by us for some time nearly ready for the press, and which would have been published before this period, but for our desire to procure accurate drawings of some of the more celebrated watering places, and to obtain more specific information in relation to the composition and medical effects of some of the mineral waters in Eastern Virginia.

of the White Sulphur Water in the cure of disease, and while some have supposed that its *gaseous contents* are essential to its sanative virtues, others, and we think the best informed observers, attribute its medicinal virtues mainly to its *solid* or *saline contents*. To the latter opinion the able Professor of Natural Philosophy in the University of Virginia, who has carefully examined the water, and other distinguished chemists and physicians, decidedly incline.

"It certainly is a question of no little interest to the valetudinarian, whether he should use this water fresh as it flows from the spring, and abounding in all its stimulating gas; or whether he should use it after it has *partially* or *entirely* parted with this gas. To this subject we have, for the last several years, devoted the most laborious and particular attention, having instituted, with great care, various and diversified experiments, in order to establish something like definite and positive conclusions.

"Although the value of this water in what is usually termed its *non-stimulating form*, or, in other words, when deprived of its gas,

has long been known to many who are familiar with its use, it was not until the last few years that it was commonly used from choice, after it had been long removed from the spring, or from any cause had parted with its gaseous contents; an opinion, the correctness of which had never been examined, prevailed in the minds of many, that in losing its gas, it lost its strength and efficacy.

"Having settled at the 'White,' as the resident physician of the place, it became alike our duty and our interest to investigate the character and operations of its waters under every possible form and modification in which they could be presented. In the pursuit of this duty, we resolved to take no opinion upon 'trust,' but carefully to examine and investigate for ourselves. A prominent question immediately presented itself for inquiry, involving the relative merits which the *solid* and *gaseous* ingredients of the water possess as remedial agents. It would be tedious, and, to many, uninteresting, to detail the several steps and multiplied experiments which led us to conclusions upon the subject, satisfactory to our own mind, and upon which we have es-

tablished certain practical principles in the use of the water, which have enabled us to prescribe it, especially for nervous and excitable patients, with far greater success than heretofore. It is sufficient for our purpose at present, to state, that while we freely admit that the *sulphuretted hydrogen gas*, which abounds in the water, is an active *nervine stimulant*, and therefore may be a most potent agent in some cases; we are fully impressed with the belief that either in its *direct* or *indirect* effects, we must look *mainly* to the *solid contents* of the water for its *alterative* power as well as for its activity manifested in its operations through the different emunctories of the human body.

"Whether the efficacy of the solid contents of this water be owing to the specific character of any one, or to all of the *thirteen different salts* of which it is composed, and which exist in the water in the most minute form of subdivision, and in this condition enter the circulation, and course through the whole system, applying themselves appropriately to diseased tissues; or, whether its efficacy depends upon the *evolution* of sulphuretted hydrogen

gas *after the water has reached the stomach*, is a matter of curious and interesting inquiry.

"The distinguished chemist, Mr. Augustine A. Hays, of Rocksbury, after having bestowed much pains in analysing the white sulphur water, and in studying its peculiar character, comes to the following conclusions as to the source of its medicinal power. After describing, at considerable length, a certain matter which he found to abound in the water, and which he terms '*organic matter*,' in the course of which he says, it 'differs essentially from the organic matter of some thermal waters,' he proceeds to say, 'In contact with earthy sulphates, at a moderate temperature, it produces hydro-sulphuric acid, *and to this source, that acid contained in the water may be traced.* This substance does not rapidly attract oxygen from the atmosphere, and from coloured compounds, as some other organic compounds do,—*the medicinal properties of this water are probably due to the action of this organic substance.* The hydro-sulphuric acid resulting from its natural action, is one of the most active substances within the

reach of physicians. *There are chemical reasons for supposing that, after the water has reached the stomach, similar changes, accompanied by the production of hydro-sulphuric acid, takes place.*'

"Before Mr. Hays had communicated the above opinion, growing out of his chemical examinations, we had again and again been much interested with certain phenomena which we have termed the *secondary formation* of gas in the white sulphur water. Instances had frequently been reported to us of the water having been put into bottles after it had *lost its gas entirely*, being void both of taste and smell, and yet, after these bottles were kept for some days in a warm situation, and then opened, the water appeared equally strong of the hydro-sulphuric acid, as it is found to be fresh at the fountain.

"In a shipment of this water to *Calcutta*, some years since, the 'transporting company' had the water bottled in Boston, from barrels that had been filled at the spring six months before. This water, although *tasteless and inodorous*, when put into the bottles at Boston, was found, on its arrival at Calcutta, so

strongly impregnated with the hydro-sulphuric acid gas as to render it necessary, under the direction of an intelligent gentleman of Boston, (who had witnessed this secondary formation of gas before,) to uncork the bottles for some time before using, that the excess of gas might escape."

We have given Dr. M. thus far "chapter" and verse, and as, hitherto, he has been obliged to *give himself away*, he should be obliged to *us* for setting a price upon him. A most estimable acquaintance of Dr. M. and ourself —a genuine laughing philosopher — some years ago, wrote a book to prove that there was no such personage as the *Devil;* and he *did* prove it, entirely to *his own* satisfaction; but unfortunately for his ingenious disquisition, the learned *divines* would not countenance his "theory," and have continued, to the present day, declaiming against the *old gentleman's* horns and cloven foot. We fear it will be so, with Dr. M. and ourself: he will continue to recommend "*stale water*," and we shall continue to prefer *fresh:* he will continue to urge that—"This water, although *tasteless* and inodorous, when put into the

bottles at Boston, was found, on its arrival at Calcutta, so strongly impregnated with the hydro-sulphuric acid gas, as to render it necessary, under the direction of an intelligent gentleman of Boston, (who had witnessed this secondary formation of gas before,) to uncork the bottles for some time before using, that the excess of gas might escape." (Good reader, refrain from laughing, if you can.) And we, poor ignorant boor! shall continue to believe, that the water was putrid, and.....!

Our transmontane Galen gives a quotation from a learned chemist, and after making him *father* deductions which must have made that gentleman smile, he says: "Whether the efficacy of the solid contents of this water be owing to the specific character of any one, or to all of the *thirteen different salts* of which it is composed, &c., or, whether its efficacy depends upon the *evolution* of sulphuretted hydrogen gas *after the water has reached the stomach*, is a matter of curious and interesting inquiry." Mark this, good reader! The gas as it comes from the fountain is a "*nervine stimulant;*" but, as "*evolved in the stomach,*" it *may be* the

sweetest gas imaginable. May fate protect *us* from Dr. Moorman's *stomachic gas !*

"We had also known that in the process of *thawing* sulphur water in a warm room, that had been previously frozen, sulphuretted hydrogen gas is evolved; for although the ice has neither the taste nor smell of sulphur, a strong smell of sulphuretted hydrogen gas is manifest as the ice is returning to water.

"We had often observed that individuals who drank the water entirely *stale*, and void alike of *taste* and *smell*, were as liable to have eructations of sulphuretted hydrogen gas as those who drank the water fresh at the fountain. These, and other facts connected with the peculiar operations and effects of this water when used in its ungaseous form,—operations and effects which we cannot here with propriety refer to, but all going to prove the *secondary* formation of gas under certain circumstances,—had, in our investigations of this water, interested us exceedingly, and consequently, we were not a little pleased that Mr. Hays' chemical examinations so fully sustained the opinions we had been led to entertain from our personal observations."

The Dr. says: "We had often observed that individuals who drank the water *stale*, were as liable to have eructations of sulphuretted hydrogen gas, as those who drank the water fresh at the fountain." We know not what effect the Doctor's *observation* may have upon the reader, but we declare our sides fairly ache from laughing at the discovery, that *stale* water makes the Dr. and his patients *belch*. Thanks to our stars that we are not near enough to appreciate "*the operations and effects* all going to prove the *secondary* formation of gas under certain circumstances."

The Doctor proceeds: hear him!

"The interesting opinion of this distinguished chemist, in connection with the numerous proofs, derived from analogy and observation, of the *secondary* formation of sulphuretted hydrogen gas in this water, would seem to be well calculated to harmonize the opinion advanced by us of the equal efficacy of the water when deprived of its gas, with the sentiment entertained by some, that the hydrogen gas is essential to its sanative operations.

"The phenomena of a *secondary for-*

mation of sulphuretted hydrogen gas in mineral waters, has not, that we are aware of, been noticed before; it certainly has not in relation to the white sulphur water, and we sincerely hope that medical gentlemen generally, who may have occasion to use the water, will direct a careful attention to this singular fact. For ourselves, we promise still further to investigate this interesting subject, and may, at some subsequent period, lay the results of such investigation before the medical public."

We have thus far quoted from the "Preliminary Chapter" of our learned contemporary, which he informs us is part of "a work in manuscript, on the Mineral Springs of Virginia, which has been lying by us (him) for some time, nearly ready for the press."

The Doctor's bantling has not yet been made public, though *nearly* ready for the press three years ago: we hope it has not gone upon a voyage to Calcutta, or, if it has, that it has been given in charge to that same "intelligent gentleman from Boston" who was so considerate as to save the poor Hindostanese from the "secondary formation of gas;" for we are sure

that after three years, it must be a little *stale*, and, judging by the first chapter, tending to the "odour of rotten eggs." A writer in the Literary Messenger of May last, whose article on the qualities of the Warm Springs we have inserted in a previous chapter, has asserted that "*some persons faint at the fragrance of the damask rose.*"

> "Oh! if there be an Elysian on Earth,
> It is this, it is this!"

Blessed fainting this; "a little of thy civet, good Apothecary," for we and our readers have had so much of Dr. Moorman's "nervine stimulant and gas evolved in the stomach," there is danger our olfactories will become so stimulated as to make us sneeze to death.

But we think we have given enough of the "Chapter" even to satisfy Dr. M. What say you, Dr.? If not, we will do you more ample justice in our *third edition.* Now to the Doctor's *facts.*

"In this work, the author has arraigned us before the public in a manner so unjust, and at the same time so virulent, that however reluctant we may be to enter the arena of controversy, we feel that he has left us no alterna-

tive. In the defence, however, of our character as a man, and of our views as a physician, we shall endeavour to curb those angry feelings which malignant aspersions are so well calculated to arouse; content to inflict no wound more severe than will follow the recoil of a futile effort to effect a sinister and selfish end.

"That the public may be enabled more readily to appreciate the merits of the issue between Mr. Burke and ourselves, we deem it better at once to lay before them a few prominent facts—which facts, we believe, will not only afford a key to the controversy, but shed much light upon the motives by which Mr. Burke has been actuated in dragging us before the public, at the expense alike of justice and the common courtesies of life.

"*In the first place*, he and ourselves are entire strangers to each other, and have had no intercourse which could possibly have engendered the slightest degree of personal hostility. *In the second place*, Mr. Burke is the *Proprietor* of the *Red Sulphur Springs*, the water of which, he contends, is not only destitute of stimulating properties, but even *sedative* in its effects; a peculiarity, whether real or imagin-

ary, upon which rests solely, or in an eminent degree, its medicinal reputation. *Thirdly;* it is generally admitted that the white sulphur water, in its natural state, and as recently taken from the spring, is decidedly *stimulant;* and further, that its stimulating effects depend upon the sulphuretted hydrogen gas contained therein. *Fourthly;* it is well known that the sulphuretted hydrogen gas, or stimulating constituent of the recent white sulphur water, escapes upon suffering that water to stand for some hours in an open vessel, or is driven off by heating it. And *fifthly;* it follows, from what has been said relative to the stimulating effects of the gas, its escape, &c., that if the medicinal properties of this water reside mainly in its saline ingredients, by suffering its gas to escape, the water may be so modified as to adapt it to those cases wherein a stimulant is contra-indicated, and in which the aperient and alterative effects of the water would prove essentially beneficial.

"If, in connection with what has been said above, the reader will take into consideration the further fact that, in times past, many valetudinarians were in the habit of leaving the

White Sulpur Springs because of its stimulating property—and for that reason alone—to seek relief at the 'Red,' he will have, we believe, a clew by which he may readily be conducted to the source whence Mr. Burke's assault, upon what he is pleased to term *our theory*, has emanated. Suppose, for a moment, that 'our theory' be correct, and that indisputable facts can be adduced, sufficient, in number and character, to show that the water in its modified form, and divested of its stimulative property, retains not only its aperient but its alterative agency, and thus becomes adapted to those cases wherein, but for its stimulating character, it would, in its natural state, have been indicated,—what then becomes of the patronage which the 'Red' once received from cases of this class? Can any one suppose that, under such circumstances, a preference would be given to the Red Sulphur? The idea, to one acquainted with the relative alterative value of the respective springs, is preposterous; and those not familiar with the subject may readily infer, from the extreme sensitiveness of the 'Pro-

prietor of the Red,' that he regards the grounds of alarm as by no means trivial.

"After having carefully examined the work of Mr. Burke, and maturely reflected upon its general character, we are forced to the conclusion that the attack which he has made upon ourselves should be regarded in no other light than as incidental to the general scheme—as a mere tributary towards the accomplishment of the end for which his book was written. What was that end? To elevate in public estimation the medicinal virtues of the Red Sulphur Springs. Our humble self and our 'theory' stood in his way, and must be removed. The obstacle thus opposed may have been trivial, yet its suppression was deemed necessary. How was it to be accomplished? To charge our 'theory' with injuring his Spring would not answer,—his motives might then have been suspected; he assumes a virtue not his own; he hearkens to the dictates of 'duty,' and impelled by the irresistible spirit of philanthropy, steps forward to the rescue. Over the deluded victims of our 'theory' he stretches the broad ægis of his protection, dispels the darkness that envelopes them, and

rejoices in the hope that they will yet quaff the waters of *his* health-giving fountain."

Any one who reads the paragraphs just quoted can see that the object of Dr. M. is to invalidate our attack upon his "theory" by representing us as the "Proprietor of the Red Sulphur Springs," and thereby convicting us of unworthy and selfish motives. There is one important ingredient deficient in the Doctor's statement, and that is *truth*. When we wrote the little work of which he complains, we had no more interest in the Red Sulphur than he had, or than we have at this moment. The facts were these: In the spring of 1841 we surrendered possession of the property by a deed or contract recorded in the County Court of Monroe, and in the autum of that year removed to Richmond. In February, 1842, we divested ourselves of every residuary interest in the estate, and the work impugned by Dr. M. was written and published between that time and July, 1842. So it will be seen that the charge of selfishness and base motives falls to the ground, and with it all the fabric raised by Dr. M. on this sandy foundation. The truth is, that, having on

our hands many hours of solitude, in the absence of our family, and believing that we might do good by directing public attention to hygienic agents of great importance in our estimation, we determined to devote our leisure to a treatise on the subject. We have never derived one dollar's profit from it, having given our manuscript to the publishers; and as to literary reputation, the theme was one too unpromising, even had we the vanity to aspire to that distinction. But there is a gratification beyond all other considerations, which has made our heart throb with pleasurable emotions, and that is, that many an invalid has expressed to us deep gratitude for the publication of our little manual. To have put in the right way one unfortunate sufferer would be payment enough for all our trouble; but, we thank God, the acknowledged benefits have exceeded our most sanguine expectations; if the drinkers of Dr. Moorman's *stale* water have proved as grateful as our readers, we shall be pleased to hear it; but we fear he gets more curses than blessings. But he says our sole object in attacking *his theory*, was, lest the White Sulphur water, by being de-

prived of its stimulating properties, should rival the Red Sulphur in the sedative effects claimed for it, and thereby jeopard our interest. The absurdity of this allegation is manifest even to a half-idiot; for even Dr. M., obtuse as he seems to be in such matters, must see that the large portion of saline ingredients in the White Sulphur must, *primarily*, act altogether as a stimulus to the peristaltic motion of the intestines and to the intestinal surfaces, and to the circulation, whilst the claim set up for the Red Sulphur rests upon an opposite composition. Those waters therefore never have been, and never can be rivals.

It is true enough that Dr. M. has duped some unfortunate invalids by advising the use of an agent which, however valuable when properly applied, is, when misapplied, exceedingly deleterious, and it is equally true he may do so again; but for that he will have to answer at a bar where no special pleading will avail him. As to *our interest*, whatever misunderstanding may have existed on that head, even *he* will not say that we have any interest *now*. Surely we cannot be suspected of any peculiar interest for the present proprietors;

yet, we re-assert all we have said in praise of that remarkable water; and no circumstances that have arisen can ever cause us to withhold our real sentiments respecting an agent which we consider important to a portion of our fellow-beings.

We shall make no further quotations from Dr. M. His facts are without foundation in truth; his arguments puerile and shallow; his theories untenable; his absurdities ridiculous; his motives palpable and culpable; and his efforts to bolster up a selfish practice, a gross imposition.

Now who would have thought that a grave physician could have relied on the fact, that his *putrid* water, at Calcutta, emitted a noxious gas, to prove that this water had been divested of its *nervine* stimulus, when the truth probably was, that any poor wight, who might be so imprudent as to hold his nose in contact with it, would encounter a knock-down argument? He urges, too, that this *stale* water, as he aptly calls it, is better than fresh water: "*Credat* Judæus Apella, non ego."—Swine may believe him, men cannot. An Englishman prefers stale *bread* to fresh, but we opine

John Bull would turn up his nose at *stale* water, even though capable of "*evolving gas* in the stomach." By the way, we always thought it was a grand object with the physician to prevent the "*evolution of gas in the stomach*;" but it seems Dr. M. has an especial *penchant* for this *secondary formation*, and perhaps, having experienced the *comfort* of it in his own abdominal apartments, desires that his patients should enjoy a similar blessing. In conclusion we offer the following Bagatelle as our reply to the remainder of Dr. M.'s pamphlet.

SCENE—THE PAVILION.

Dr. Moorman seated with copies of his pamphlet in his hand—enter two visiters.

1*st Visiter.* Good morning to you, Sir! We are just arrived, and will thank you to inform us where we may find the resident physician, Dr. Moorman.

Dr. M. (rising and bowing). I am your humble servant, gentlemen, and the person whom you seek.

1*st Vis.* We have fallen in with you very *apropos*, sir, and desire to consult you on the

waters adapted to our cases, which we will individually explain.

Dr. M. (aside). I saw them coming, and judged curiosity would quickly bring them hither. (aloud) Well, gentlemen, I shall be most happy to hear your cases, and to counsel you on a matter of so much importance as the use of the waters.

1*st Vis. My case*, Sir, is supposed by my physician to be *irritability* of the nervous tissue of the stomach and intestines, and my instructions are to visit the Red Sulphur, and then use the Sweet Spring Bath.

Dr. M. It is altogether unnecessary for you to visit that dismal place, where the solar rays do not penetrate, until that luminary reaches its meridian. I have learned to make this water exactly similar to the Red Sulphur, and equally efficacious. I have discovered, gentlemen, that the sulphuretted hydrogen is "*an active nervine stimulant*;" I divest it of this stimulant and its saline matter by boiling, while I am procuring material for my celebrated *White Sulphur pills*, and then, on cooling, I add to a gallon of distilled water half a pint of water from the fountain, just, you know, to

give it a little odour, and it is Red Sulphur water.

1*st Vis.* Well, but what substitute do you propose for the Sweet Springs?

Dr. M. My dear Sir, nothing in the world easier! just let this water stand in an open vessel 24 hours and add a little lemon juice!

2*d Vis.* Mine, Sir, is a case of habitual constipation, and my physician directs I shall use the waters of the Salt Sulphur.

Dr. M. My dear Sir! is it possible your medical adviser did not know, that my *concentrated White Sulphur pills* had superseded the use of the Salt Sulphur? No, no, Sir, remain where you are; let the sulphur water stand in your pitcher 12 hours, (for you are aware that taking it with the gas would be like taking "*a purgative potion administered in wine, toddy, or any other diffusible stimulant,*") and drink a dozen glasses in the 24 hours, taking, morning and evening, four of my *concentrated pills.*

2*d Vis.* Well! but, Dr., a very distinguished physician of Philadelphia declares he has detected corrosive sublimate in your pills, and

that their being made altogether of White Sulphur *residuum* is—

Dr. M. Is what, Sir?

2d Vis. Why, a humbug!

Dr. M. (aside). The deuce! so I am found out, am I? (aloud) The fact is, gentlemen, ahem!—(aside) alas for my modesty! ahem!—the fact is, the gentleman, whoever he may be, envies the high reputation I have acquired by my White Sulphur pills. Mine, gentlemen, is a character above suspicion, and if you investigate my whole course, through life, you will find it to be characterized by disinterestedness and a contempt of PELF.

2d Vis. That may be all true, Sir; but, Dr., look me *straight* in the face now, and answer, upon honour, have you never put that *innocent* ingredient above mentioned into your pills? (The Dr. hangs down his head.) Come, Dr., I ask you again to look me *straight* in the face, and answer my interrogatory.

Dr. M. Any fool may ask questions, but it takes a wise man to answer them.

1st Vis. It appears, Dr., that it takes a wiser man, *not to answer them.*

2d Vis. I hold in my hand a work entitled

the "Mineral Springs of Western Virginia," in which the writer attacks your theory, that sulphuretted hydrogen is an "active nervine stimulant," and asserts that your attempt to substitute decomposed sulphur water for the genuine article is a gross imposition.

Dr. M. And *I* hold in *my* hand, Sir, a complete refutation of all the positions of the author of that flimsy production. I have demolished that Burke, Sir. Have you never seen my reply, gentlemen? Allow me to present you each a copy. (Hands the pamphlets.) There, gentlemen, there you will find "*multum in parvo.*"

1*st Vis.* Dr.! what does that mean? my old schoolmaster used to translate it, by transposition, a big head and little wit; perhaps, however, this is great wit in a little book. But, Dr., if this water be better in Boston than here, why do we leave the comforts of home and incur the labour and expense of so long a journey? Mind now, Sir, like all Yankees, I am a utilitarian—I go for the common sense of the thing.

Dr. M. In truth, gentlemen, the water *is* better, as I have abundantly proved, by the

certificates of respectable men; but there are advantages to be derived from rusticating, during the summer months, in this charming retreat; and moreover, if I may not violate *modesty* in saying so, it is not the least of those advantages that you may have the benefit of your very humble servant's experience and counsel.

2d Vis. We appreciate your genius, Sir, as much as we respect your modesty. Both are, beyond question, *sui generis*. We acknowledge your profundity, admire your disinterestedness, and venerate your candour and fair-dealing; but gold may be bought too dearly, and to use a vulgar expression, it is "paying too dear for the whistle" to come from Boston for Dr. Moorman's advice, pills, and *stale water;* so good morning, Sir.

Dr. M. Oh! But stop, gentlemen, I charge for advice—ten dollars.

2d Vis. The deuce! you do: well, and what advice have you given us?

Dr. M. Why, gentlemen, I have advised you to take *my* pills and drink *stale* water, and I have, moreover, instructed you how to

make Red Sulphur, Salt Sulphur, and Sweet Spring water.

1*st Vis.* Oh! but, Dr., if we drink your *stale* water, we shall have *evolutions of gas in the stomach.*

Dr. M. My dear Sir, it is the most comfortable thing imaginable—only think, I have experienced its operations and effects for years, and I aver it is delightful!

2*d Vis.* Dr.! I am afraid you are playing the part of the fox in the fable; and after all, that gas in the stomach is any thing but *comfortable.*

Dr. M. Such *has been* the opinion; but, Sir, I claim the merit of first having made this discovery in medical science.

1*st Vis.* Well, well, Dr., there is no disputing about tastes. Upon the whole, however, we must *study* a little, before we take your advice. Pray, Sir, what did you say your fee was?

Dr. M. Only ten dollars, gentlemen, and I give you, each, my pamphlet gratis. The pills will only cost you 50 cents a box. And I shall be most happy to get your orders for a few bbls. of water; I assure you it will be bet-

ter in Boston than here, for it loses its stimulating gas.

1*st Vis.* My good Dr.! I perceive your theory is, that a part is equal to the whole; now, it exactly suits our own views on this occasion. I have a ten dollar note of the *Pigeon Roost Bank;* the discount is only fifty per cent.: call that the *gas*, and persuade yourself it is better than Virginia money.

Dr. M. There is no analogy whatever between the two cases: *I go for current, good money*, Sir; no rotten Banks!

1*st Vis.* We think there is a palpable analogy, and wonder you don't understand *Logic* better.

Dr. M. Oh! that is Burke's Logic; you cannot mean, Sir, to palm this note upon me for good currency.

2*d Vis.* Yes, but indeed we do: I guess half a loaf is better than no bread; Eh! so good morning! [Exeunt Visiters.

Dr. M. (solus, reads): "The President and Directors of the Pigeon-Roost Bank, Georgia,* promise to pay"—faugh! it smells of *guano!*

* There actually was such a Bank!

Deuce take the Yankees! Utilitarians! manufacturers of wooden nutmegs! Pigeon-Roost! indeed! Ha! Ha! Ha! One of the impudent fellows, too, asked me to look him straight in the face. I see Burke's finger in all this.

[Enter B.

B. "What, are you hurt, lieutenant?

M. "Ay, past all surgery.

B. "Marry, heaven forbid!

M. "Reputation—reputation—reputation! Oh! I have lost my reputation! I have lost the immortal part, Sir, of myself, and what remains is bestial. My reputation, my reputation—

B. "Reputation is an idle and most false composition; oft got without merit."

We now turn from Dr. M. to a more agreeable and interesting subject, the virtues and properties of the White Sulphur Waters, and we do so with the greater pleasure, because we desire to assure our readers that, whatever has been said regarding the course of that individual, we have never, in the most remote degree, *disparaged* those valuable waters. So far from it, we have always acknowledged their pre-eminent virtues and the capacity of exten-

sion which that favoured locality possesses over all the other Mineral Springs in Virginia. There is not at present known, on the broad surface of the United States, any Sulphur water which, in our estimation, ranks with the White Sulphur. It possesses a happy combination of properties, and is peculiarly adapted to the *sequelæ* of those diseases which prevail in Southern latitudes. Public opinion, which in the end seldom judges wrong, has stamped its value, and he is its worst enemy, who would deprive it of a single ingredient for the purpose of impudently palming it, in an altered state, as a *panacea*, for all diseases.

These waters are the true remedy, or they are not. If they be, let them be applied; if not, no man, with either a feeling of humanity in his bosom, or proper professional pride, or a sense of justice to the agent itself, would, under false pretences, persevere in administering them.

We have learned with no ordinary pleasure, that the late season was profitable. The company is said to have been the largest since 1839, and afforded a better average. The establishment continues under the control of

Wm. B. Calwell, Esq., whose manager during the last season was Mr. Edwin Porter, so well known as stage contractor. In an establishment so large and unwieldy, there will, and must be abuses; but it has been universally acknowledged that the comforts of the place were greatly enhanced during the last season. We learn that the Springs, with the great landed estate attached to them, are offered for sale at three hundred and fifty thousand dollars, and it is stated that some years ago, the proprietors refused half a million for them. They are well worthy the attention of capitalists.

CHAPTER XI.

RED SULPHUR SPRINGS.

The Red Sulphur Springs are situated in Monroe county, 42 miles from the White Sulphur, 39 miles from the Sweet Springs, 32 miles by the partly-made turnpike road, from the Blue Sulphur, and 17 miles from the Salt Sulphur.

In extent of accommodations, which is sufficient for 350 persons, as well as in the number of visiters and duration of the season, this Spring ranks next to the White Sulphur. The improvements consist of the Hotel, 180 feet by 42, two stories, containing dining-room, drawing-rooms, and bar and store-rooms, &c., with a double piazza the whole length; Alabama Row, 300 feet long, with a piazza the whole length, and a neat two-story building at one end; Philadelphia Row, 200 feet long, with a piazza; Batchelor's Row, 104 feet long; Carolina House, 112 feet long, and two stories

high. Between the two last ranges is a house for the reception of visiters on their arrival. There is a continuous piazza from the extreme end of Philadelphia Row to that of Carolina House, 471 feet in length.

Above Bachelor's Row, on a terrace, is Society Hall, 80 by 42 feet, two stories and a basement, having a portico supported by nine Ionic columns, 25 feet high, and presenting a very imposing front from the valley. Besides these ranges, there are numerous cottages and offices, and at the entrance a mercantile establishment; but the structure most deserving of notice is the Pavilion over the Springs.

This beautiful edifice was erected in 1830 after a design of Mr. Strickland of Philadelphia. It is a dome 42 feet in diameter, supported by 12 Ionic columns. The height from the base to the top of the entablature is about 30 feet. The Springs rise 10 feet beneath the natural level of the valley, and their depth being over 4 feet, you descend $5\frac{1}{2}$ feet by circular steps. The whole height from the level of the water to the top of the dome is about 50 feet. The Springs rise horizontally in two marble reservoirs. They

derive their name from a rich lake-colour deposit which is sometimes seen in large quantity on the sides of the fountains. Their waters are conducted into a wooden reservoir in the centre, and thence by pipes to the bathing-house.

On the summit of the beautiful southern hill that overlooks the village, and which is named Mount Ida, is a handsome octagonal summer-house, 45 feet in diameter. It was from near this spot that the view, now to be seen at the Exchange Hotel, Richmond, was taken in 1836 by George Cooke, Esq. It does not, of course, exhibit the subsequent improvement; but otherwise gives a most correct idea of the scene.

The Red Sulphur Springs came into the possession of the author of this work in the autumn of 1832 by purchase. It would be difficult to conceive a spot better calculated to discourage an attempt at improvement, and indeed many had declared it impracticable to any extent. Such, however, was not our opinion: we were aware that it was only necessary to follow, rather than subdue Nature, and that by doing so we might make some-

thing interesting out of this wild and unpromising gorge. It is not too much to say that the result has corresponded with our anticipations, and that whether as a whole, or in detail, this little valley may compare favourably with any merely rural scene in America.

It may not be improper to observe that all the arrangements for the accommodation of the guests at this place are calculated to insure comfort. The market affords varied and abundant supplies; a well cultivated garden produces a variety of the finest vegetables. Abundance, neatness, and kind and impartial attention, are the order of the establishment.

When the extraordinary powers and properties claimed for this water as a curative agent are considered, it will readily be conceded that a more extensive notice than we have given of the other Springs is not only necessary but indispensable to a just estimate of its peculiar action on the human system. We shall, therefore, without further apology, treat the subject more in detail, and if we should be so unfortunate as to fatigue the reader by the introduction of collateral sub-

jects, the error should be imputed to our earnest desire to shed upon the subject all the light in our power.

In Chapter VI. of this work we have given the sketch of Prof. Rogers's analysis furnished to us by that gentleman some years ago; we now lay before the reader an elaborate analysis by A. A. Hayes, Esq. of Roxbury, Mass. It is impossible to read this paper without perceiving that it is the result of a zealous and patient investigation by a man intimately conversant with the details of his profession. In some particulars, his results are different from those obtained by Professor Rogers; in others, they correspond very remarkably. The organic substance discovered in the water so abundantly, supposed by Mr. Rogers to be analogous with *glairine*, but called by Mr. Hayes *sulphur compound*, is believed by both to be probably an important cause of the peculiar agency of the water. There can be little doubt, we think, that this property of the water, its extraordinary freedom from saline and earthy impurities, the well adjusted proportions of its several gases, and its low tem-

perature, are the immediate causes of its remarkable virtues.

"Roxbury Laboratory, 17th Jan., 1842.

"Dr. William Burke:

"Dear Sir,—Through my friends, J. S. Cook, Esq. and Dr. H. J. Bowditch, I received specimens of the water, red deposit and mud, from the Red Sulphur Springs, in Virginia, for chemical analysis. It was with great interest that I engaged in the experiments, as very little was known of the chemical composition of this water, although its medicinal effects had rendered the watering-place a celebrated one. I have sent Mr. Cook an account of the results obtained. Since my observations were communicated, Mr. Cook has allowed me to peruse a copy of a letter from Professor Rogers, dated in May, 1835, in which is contained a notice of a peculiar organic matter contained in the water. He has therefore anticipated my discovery, by some years. I do not, however, consider this substance identical with baragene or glairine of the Warm Springs of Italy and France. It is, so far as I know, new and peculiar, and

seems to be an azotised base *combined* with sulphur, and so combined as to neutralize the distinctive characters of the sulphur. The hydrosulphuric acid gas (sulphuretted hydrogen) found in the water, is produced through the agency of this body; either by its action on the sulphates present, or more probably the substance itself disengages hydro. sulp. acid, before reaching the surface of the earth, abstracting oxygen from air already dissolved in the water. It is in favour of this view that *less* oxygen is present in this than in common water, the mixture of oxygen and nitrogen in river water often giving 38 per 100 of oxygen. I have minutely examined the saline contents of the water, and the results sent you are those which have been checked by independent experiments. The almost entire absence of chlorine, or muriatic acid, is a singular fact. I examined every bottle for chlorine, and although in most of them traces were found, they were not constantly observed, and quite as likely to be derived from accidental sources, as from the water. The largest quantity found would have carried my decimals to four, or five, and is wholly unimportant. The water

gives by tests indications like those observed when chlorine is present, but the appearance is fallacious. I have arranged the acids and basis according to the views of Murray and Berzelius, and experiments show that in this case these views are correct. The alkaline action of this water is due to the solution of the carbonate of magnesia in carbonic acid (Murray's fluid magnesia), and the peculiar substance distinctive of this water *seems* to be dissolved in this solution.

"You will not fail to observe that the chemical history of the peculiar 'sulphur compound' is incomplete. My principal object in addressing you at this time is to request you to furnish me with more of the 'red deposit,' as a source of it. Professor Rogers supposed the sulphur was deposited and mixed with it. I believe no trace of uncombined sulphur can be found in it, in its fresh state; and when I fermented it, hydro-sulp. acid was the form it appeared in. I deem this a very important distinction, in a medical point of view, and incline to the opinion that *all the sulphur in this compound is in a state fitted to be absorbed in the animal system*, as no other

known solution, or powder of sulphur, is, excepting perhaps hydro-sulp. acid. The opinion that substances of delicately balanced affinities in their changes give rise to changes in other bodies, is gaining ground among the most learned physiologists and chemists, and such a view of the effects of some of the constituents of mineral waters is perhaps a correct one. I exclude of course all those waters wherein one stable constituent of great activity gives character to the water, and include those which differ but little in saline constitution from well-waters generally, but contain besides, a substance in a state of passing from one form of matter to a new form and constitution of matter. These views would be more acceptable, if experiments had demonstrated their truth : for this we must wait.

"Chemists are indebted to M. Liebig, for a clear exposition of the phenomena attending fermentation and decay. Many had, doubtless, entertained similar opinions, but for an explanation of some of the most recondite changes, resulting from chemical action, he was the first to propose the *transfer of action*,

from one changing body, to another which may be alone a stable substance.

"The chemical history of the sulphur compound, shows that, like yeast, it has the power of inducing changes among the constituents of another body, like those it is itself undergoing. Healthy surfaces and tissues may resist its power, and the water in which it is dissolved may not produce any effect of disturbance on a healthy stomach. Waters containing a minute portion of the salt called Hydriodate of Potash, may be used as an ordinary beverage, without any marked action. But diseased organs and impaired vital action allow of marked effects being produced by such waters. Experiments, made on larger quantities of the deposit from the Spring, demonstrate the existence of phosphates, in small quantity. The origin of this singular substance, which for past ages has been poured out from the strata, is a question of great interest. The quantity would indicate that the source of supply can only be the organic matter of rocks constituting an extensive formation. Its composition leads me to infer that we are drawing curative effects, as we do articles of beauty and luxury,

from an older than the present state of creation.

"The 'red deposit' I inferred from chemical observation to be exhibiting signs of vital action. Dr. Rogers had earlier made the observation from inspection. In relation to some compounds referred to above, baragene and glairine, botanists have arranged them as organized beings, in the species Tremulosa, and suppose the seeds to be brought by the water to a suitable place for germination; so much for the evidence obtained by the aid of lenses and eyes. On the other hand, it has been demonstrated by chemists, that the substance present in the water is *not* the substance which the botanists have named: lenses and eyes cannot see it; it unites to other bodies and plays a certain part, can be separated, and retains its former properties. The circumstances, under which substances of this kind are deposited, seem to have been overlooked, or misunderstood. In all cases the waters have been *slightly changed in constitution*, after leaving that point in their courses below which, deposition never takes place.

Thus a water highly charged with carbonic acid, losing a part of this, in contact with the atmosphere, will deposit so much of a body held in solution in carbonic acid, as was dissolved by that part which has passed off. It is always a very small part of the whole quantity which is deposited; the bulk goes forward with the water. Rocky strata change waters in this way, and when several kinds of stone are wetted by the same water, some produce this change, others do not. In the matter thus deposited, the seeds of organic matter vegetate, often with surprising rapidity. I have seen the silicious shells of animalculæ, after the death of these active little beings, fall to the bottom of a glass vessel, closely stoppered; and within a week, a close deep-green covering of moss has completely invested and covered the remains. In the Red Sulphur Spring, the red lichen seems to have found in the sulphur compound a congenial soil, for its ramifications extend throughout it. The black mud seems to have changed the sulphur compound, combining through it ferreous salts with the sulphur, and giving oxygen to the

other constituents of the compound.* I think you will observe that the marble-slabs, pieces of wood, metal, &c. act differently in producing or receiving the deposition,—sunlight and shade often cause different effects.

"Respectfully,

"AUG. A. HAYES."

* The phenomenon mentioned by Mr. Hayes, has caused much speculation at the Springs. The colour undergoes various changes of hue in an incredibly short space of time. Since the new temple has been erected over the fountain, the rays of light falling differently on them sometimes affect the brilliancy of the colour, but the quantity of the deposit never varies. It is also true that wood is more favourable to the appearance of the deposit than marble.

CHAPTER XII.

RED SULPHUR SPRING WATER, VIRGINIA.

This water is perfectly colorless and transparent; when agitated it has an agreeable sparkling appearance. Its odor is that of hydro-sulphuric acid, mixed with that from earth or clay; the latter being retained, after the hydro-sulphuric acid is dissipated, or destroyed. Its taste is hepatic and slightly bitter. By ebullition, it does not immediately become turbid, gases escape, and when reduced in volume by evaporation deposition takes place.

The specific gravity of this water, compared with pure water at the same temperature, and pressure equal, is 100029. Subjected to the influence of chemical re-agents, it presents the following characters:

With a solution of chromate of potash, the yellow color becames greenish yellow.

With a solution of nitrate of mercury, a grayish-brown precipitate is formed.

" acetate of lead; the first drops give a brown colored precipitate; an additional quantity of a yellowish white precipitate.

" bisulphate of copper; at first brown, succeeded by a bulky greenish-gray precipitate.

" sulphate of silver, a brown, succeeded by a yellowish white and flocculent precipitate.

" muriate of baryta, a white precipitate, insoluble in acids.

" oxalate of ammonia, a white precipitate.

" nitrate of silver and ammonia, white precipitate, which becomes brown and purple in sunlight.

" nitrate of copper and ammonia, a pale bluish-green precipitate is formed, after the first few drops of the reagent have separated a brown precipitate.

" tincture of iodine, added to a large bulk of the water, containing starch

dissolved in it, instantly gives a blue colour to the starch.

Analysis.—Indications above described afford evidence of hydrosulphuric acid in the water, while the iodine solution shows that it exists in a relatively small proportion. A bottle of the water was mixed, at the moment of taking it from the Spring, with a small quantity of oxide of bismuth, and closely sealed. After the agitation due to carriage, and rest for several weeks, it was found that the particles of oxide of bismuth were rendered brown superficially, and no traces of hydro-sulphuric acid remained in the water. The oxide contained carbonic acid, and less than one-third of a grain of the oxide had absorbed and combined with all the hydro-sulphuric acid, contained in about fourteen thousand grains of the recently drawn water. By careful experiments, in which the hydro-sulphuric acid was measured by its action on iodine, and the latter weighed in its silver compound, the bulk of the hydro-sulphuric acid was ascertained.

50,000 grains (about seven pints) of the water, from which the hydro-sulphuric acid

had been removed, afforded by the usual processes 2698 grain measures of gases, or one volume of gases from 18½ volumes of water.

1000 parts of the mixed gases are made up of

Carbonic acid gas,	4·19
Nitrogen gas,	4·77
Oxygen gas,	1·04
	——1·000

The two latter gases form the bulk of our atmosphere, in the proportion of 79 nitrogen to 21 oxygen—477 of nitrogen requires 126 oxygen, while the analysis gives 1·04, showing that oxygen is abstracted by the constituents of the water. All the well-corked bottles had rarefied atmospheres over the water, and when they were pierced even at 32° F., air would enter.

A well-sealed bottle, containing the hydrosulphuric acid gas in the water, afforded for 50,000 parts of water 3088 of mixed gases, or one volume of gases from less than 17 volumes of water, consisting of

Carbonic acid gas,	1245
Nitrogen gas,	1497
Oxygen gas,	260
Hydrosulphuric acid gas,	86
	——3008

Gaseous contents of a gallon, or 231 cubic inches of the Red Sulphur Spring water—

Carbonic acid,	5·750
Nitrogen,	6·916
Oxygen,	1·201
Hydrosulphuric acid,	0·397
	14·264

In this analysis, the proportion of oxygen gas to the nitrogen is still smaller, a result which accords with other observations made at the same time. The hydrosulphuric acid gas is the most active of the gases found; while the carbonic acid gas acts the part of an acid, in rendering earthy salts soluble in the water.

50,000 grains (about seven pints) of this water afforded by slow evaporation in air at 200° F., a light yellowish-brown matter, which, after it had been carefully dried, weighed $20\frac{5\,6}{1\,0\,0}$ grs. At the temperature of 240° F., this residue becomes changed, and suffers a loss of weight, being reduced to 17·55 grs.

This residue contains the saline part of the water, and is composed of—

Silicious earthy matter, containing traces of oxide of iron and alumina, probably suspended merely,	0.70
Sulphate of soda in a dry state, which forms with the water 802 grs. Glauber's salts.	3·55
Sulphate of lime,	0·47
Carbonate of lime, dissolved in carbonic acid.	4·50
Carbonate of magnesia, dissolved in carbonic acid, and forming the "Fluid magnesia."	4·13
A peculiar substance, containing Sulphur combined with organic matter,	7·20
	20·55

There are traces of chlorine, or muriatic acid, in some specimens, but at most only 0·03 of chloride of silver could be separated from 10,000 grs. of water. This substance is rarely absent from natural waters, which have penetrated the earth.

The peculiar sulphur compound which forms a part of the saline contents of this water, has never been described, if it has ever before been met with. While in the natural

state, and out of contact with atmospheric air, it is dissolved in the water, and forms a permanent solution. Air, acids, and other agents, separate it from the water, in the form of a jelly, and alkaline carbonates, alkalies, water, and other agents re-dissolve it. It has no acid action on test fluids, but bears that character with bases, and forms compounds analogous to salts. In its decomposition, ammonia is formed, and hydrosulphuric acid is liberated; or if heat be employed in the experiment, sulphur is separated. It combines with the oxide of silver, and forms a salt of a reddish purple color, in the form of a flocculent precipitate, which dissolves in pure water; with the oxide of lead, a yellowish white powder, and with the oxide of copper, a pale blue salt in fine powder. In these compounds it remains unaltered, and may be separated from them and transferred to other bases.

Mixed with a small quantity of water, and exposed to the temperature of 80° F., it decomposes, and emits a most offensive odor of putrefying animal matter, with hydrosulp. acid gas. It is to this property that the hydrosulphuric acid in the water is due, and to the

oxidation of a part of this compound most of the sulphuric acid found in the water may be referred.

I have endeavoured to ascertain how its elements are arranged, but so small a quantity has been separated, that I could not insure the purity of any salt formed with it. $1\frac{44}{100}$ grs. gave with oxide of copper $3\frac{42}{100}$ grs. of a dry, bluish-green compound.

With the specimens of water, I received a small quantity of a "red deposit," which invests the surfaces of the marble slabs forming the basin of the Spring. It had become changed, although the cork was tightly sealed. When opened for examination, a soft, clay-coloured mass, composed of films having a greasy appearance, mixed with some filamentous parts, was found. The odour it exhaled was insupportable; it blackened metals, and when agitated with water, rendered it viscid. With a solution of carbonate of soda it formed a frothy solution, which while cold had the appearance of a solution of soap, and when heated disengaged some ammoniacal vapours, and formed a solution of all excepting some earthy and filamentous parts. This

substance contains the same compound of sulphur and organic matter as that found dissolved in the water of the Spring. I separated from the water the peculiar matter it contains, in the form of films, and compared these with those obtained from a soda solution of the altered "red deposit," by the aid of re-agents, and they proved to be identical. From the examination of this altered matter, I have formed the conclusion, that the red colour of the matter which covers the slabs is that of a moss or lichen, which finds its habitat in the viscid covering produced by the deposition of the sulphur compound.

My early attempts to illustrate this point failed. The substance separated from the water, by uniting it to oxide of copper, and afterwards destroying the union by hydrosulp. acid, would become after a few days covered with vegetation of mosses, unlike those described as occurring at the Spring, I was led to the conclusion that the spores or seeds of the peculiar "red moss" did not exist in the atmosphere of this place and must be found in the products of warmer climates. After several trials, I succeeded by treating rice, with a

hot dilute solution of carbonate of soda, in obtaining a red coloured moss vegetation, which could be transferred to the decomposing compound on which it flourished. In its union with oxide of copper, no tendency to decay, or the production of vegetation was observed, under the most favourable circumstances; but when after separation, decomposition and decay had progressed, vegetation appeared. I need not ask, if a substance possessing vitality, can be combined with oxide of copper and afterwards eliminated by hydro. sulp. acid and retain its vital powers?

A small specimen of the mud and slime, which appears where the water from the Spring flows, was received. It was a black, tenacious mud, exhaling an odour of hydrosulphuric acid, mixed with that from earth. The colour is due to the sulphuret of iron, formed by the action of the hydrosulphuric acid on the ferruginous matters contained in the soil, which is a product of a further decompostion of the sulphur compound contained in the water. It forms brown coloured solutions and imperfect salts; its sulphur element is retained; in other respects, it resem-

bles the brown extracts from soils, or the humus and apocrenic acids of Berzelius.

Having studied the chemical characters of the sulphur compound imperfectly, I give only those reactions in the following description, which will serve to show its want of identity with any of the various substances which have been found in thermal waters, and in some European hepatic waters.

Chemical character of the Sulphur Compound.

I. When separated from a solution by evaporation, or by drying from a gelatinous state, it forms greasy films, which do not darken solutions of lead or copper.

II. In pure water they slowly dissolve, and the solution gives salts of the compound, with the bases.

III. Solution of carbonate of soda dissolves them, and a fluid results which froths by agitation.

IV. In caustic solutions of alkalies, the films dissolve, and the solutions are slightly yellow coloured. These solutions have the peculiar odour of soap-leys. They do not blacken

metals, nor colour metallic solutions. Acids decompose the solutions, and the sulphur compound separates in the form of a bulky jelly generally; some oxyacids giving flocks.

V. Nitric acid dissolves the films, and the salts of baryta and lead do not indicate the presence of sulphuric acid. On heating the acid solution, a yellow matter separates, which resembles that produced by acting on azotized bodies by this agent; sulphuric acid is thus produced, and the yellow precipitate requires a large proportion of nitric acid for its complete oxidation. The result of this action is an acid which gives a deep yellow colour, with ammonia in excess.

VI. Chlorine in muriatic acid separates from the sulphur compound some white flakes, which are finally oxidized, and a colourless solution formed, in which sulphuric acid exists.

VII. Alcohol did not dissolve the compound.

Chemical experiments do not show the medicinal properties of the substances operated on. But when a substance, the result of del-

icately balanced affinities, gives in its decomposition an agent of powerful action on the animal system, we may conclude that it is an active ingredient, if found in a water possessed of high curative powers. I am disposed, therefore, to consider the sulphur compound in this water as the principal medicinal agent contained in it; although its action in combination with the other constituents may be necessary to produce the effects for which this water is so justly celebrated.

The following results give in one view the composition of this water.

Gaseous contents of a gallon, or 231 cubic inches of the Red Sulphur Spring water:

Carbonic acid,	5·750
Nitrogen,	6·916
Oxygen,	1·201
Hydro-sulphuric acid,	0·397
	——14.264

50,000 grs. (nearly seven pints) of this water contain dissolved as gases, (grain measure),

Carbonic acid,	1245 water

Nitrogen,	1·497
Oxygen,	260
Hydro-sulp. acid,	86
	——3088

grain measures of gases.

50,000 grs. of this water afford of

Silicious and earthy matter,	0·70
Sulphate of soda,	3·55
Sulphate of lime,	·47
Carbonate of lime,	4·50
Carbonate of magnesia,	4·13
Sulphur compound,	7·20
Carbonic acid,	2·71
	——23·26

Note.—The carbonic acid which is given with the saline matter, being all which the water contains, includes that which is given off as gas by ebullition.

AUGUSTUS A. HAYES.

Roxbury Laboratory, Jan. 14, 1842.

By request of Mr. Hayes, we have ordered a large supply of the "Sulphur Compound" to be sent him for further experiments. We shall publish the result in some form when obtained; meantime we think it will be conceded that the analysis and explanations given above are perfectly satisfactory, and place the claims of the Red Sulphur as a *peculiar water* on impregnable grounds. Here we have not only results, but the whole process by which they were obtained. There is no mystification; but at every step of the experiment the reader is instructed and interested. We would especially invite his attention to the curious substance in which Mr. Hayes supposes the virtues of the water mainly to consist.

On this head he makes the following important remark. "I believe no trace of uncombined sulphur can be found in it, in its fresh state, and when I fermented it, hydrosulp. acid was the form it appeared in. I deem this a very important distinction in a medical point of view, and incline to the opinion that all the sulphur in this compound is in a state fitted to be absorbed into the animal system,

as no other known solution or powder of sulphur is, excepting perhaps hydro-sulph. acid."

The introduction of this bland substance in a fluid condition into the system *must* exert a great influence on the circulation, and consequently on the mucous surfaces that are in a morbid condition; and when we consider that the greater portion of the fluids taken into the stomach is *directly* conveyed into the circulation by the absorbents, we can at once perceive that the great hygeienic power of this water is dependent on the characteristics enumerated, all of which combined act as a singular alterative in equalizing an excited circulation, in correcting the highly acrid and vitiated secretions of an irritated mucous membrane, by modifying the fluid that supplies the matter for that secretion; and that by sending to the heart and lungs also a diluted instead of a highly concentrated supply of blood, it calms those organs by producing in the latter a condition favourable to the proper performance of their function of oxygenation, and by soothing the irritation of the former, causing it to send forth its stream with a

milder impetus, and, moreover, by diffusing more equally the capillary circulation, and in return obtaining not only a more moderate, but a more healthy supply.

Suppose then an irritated feverish condition of the mucous membrane of the bronchi or alimentary canal to exist when this water is taken into the stomach, it is refrigerant, bland, pure, yet abounding in subtle and invisible power: what is its probable mode of action? Why, reasoning from analogy, we must conclude that its first impression is on the nervous expansion with which it comes in contact: this sends the pleasurable sensation to the brain; this urges into activity the absorbents; these convey the tranquillizing influence to the circulation; and this influence is again returned to the modification of the irri tated surfaces. The external capillary circulation is restored to its rightful balance; the skin and the kidneys perform their appropriate functions; in a word, the normal condition is restored, and all is smooth and calm as the unruffled ocean.

But if, on the contrary, a *hard*, harsh water, loaded with saline ingredients, comes in

contact with a surface in the condition supposed,—what may reasonably be expected? Why, evidently that the nerves will be distressed, the circulation still further depraved, the heart excited to unnatural action, the irritated surface still further engorged, the arterial action increased, respiration hurried, and all the functions of the external and internal organs abnormally performed.

"Through pervious earth the filter'd surges pass,
Rise in sweet springs and lave the freshened grass;
While their smooth seeds an easy passage find,
Lodged in the pores, the rough are left behind."

The process of filtration described by *Lucretius* gives us a good idea of that effected by the organs of secretion of the human system. It is not probable that the absorbents of the stomach have the power of discriminating between one fluid and another; hence it is that, whether pure water or alcohol is presented to its surface, it is thrown into the circulation; but not so with the kidneys or skin, or mucous surfaces; they probably resist the obnoxious article, for a while, but when again and again presented, it overpowers their energies, and first, abnormal functions,

and next, organic lesion, is the consequence. It will readily be seen, then, in chronic affections of the organs of respiration and of the abdominal viscera, if these affections amount to *irritation or subacute inflammation*, that the Red Sulphur alone, of the Sulphur waters, is admissible.

From this comparative view of the action of those differently composed sulphur waters some valuable instruction may be derived, and we hope will not be altogether overlooked by invalids. It may afford a hint too in the selection of our food, for nothing is more preposterous than to take a minute portion of medicine to effect a certain object, and while under its influence to fill the stomach with substances altogether incompatible with it. What would be said of a physician who would use the lancet to subdue inflammation, and at the same time administer brandy?

CHAPTER XIII.

We think that a candid review of the analysis of the Red Sulphur and of our remarks on its action, founded on a long observation and experience, will lead every unbiassed mind to conclude that the claims of this water as a curative agent are well founded; but we do not mean to rest our case here; we can prove beyond a doubt that this water exerts an influence over the circulation that no other agent has been known to exert. The evidences which we have received of this fact in the course of our nine years of ownership, would fill a large volume; but we will content ourselves with publishing a few recent cases in addition to those given by the late Dr. Huntt in his pamphlet on this Spring. Few persons were better qualified than that lamented physician to make observations on a mineral water. His perception was clear, his observation acute, his discrimination accurate, his judgment sound, and his integrity

incorruptible; and after witnessing with his own eyes the effects of this water, and reflecting well and long on what he was about to assert, he pays it the following compliment:

"The Red Sulphur is decidedly sedative in its effects. It subdues chronic inflammation, tranquillizes irritation, and reduces the frequency of the pulse in the most astonishing manner. It has been considered peculiarly adapted to the cure of pulmonary diseases, and it is true that it has a most beneficial effect in most cases of this disease; but its good effects equally extend to all cases of subacute inflammation, whether seated in the stomach, liver, spleen, intestines, kidneys, bladder, and most particularly in the mucous membrane. *In fact, nature never yet gave to man a remedy capable of more extensive application, nor better calculated to relieve a larger class of diseases.*"

Such was the testimony of that eminent physician, from personal observation, prompted too by no partiality towards the proprietor, to whom he was an entire stranger; but purely by a desire to benefit society. Will it be objected, as we are informed it has been

objected, that he subsequently died of the disease for the cure of which he had so highly eulogized this water? Surely every medical man ought to know that where there is a predisposition to disease of any organ, an actual *lesion* of that organ, *though cured*, increases that predisposition, and that it is expecting *too much* of a medicine, not only to cure the existing disease, but to secure the organ from any future recurrence of that disease.

A man with a chronic affection of the bronchi or parenchymatous structure of the lungs, is to go to the Red Sulphur and drink the water for 15 or 20 days, and the attack is relieved, and he is restored to apparently perfect health; but this does not suffice, he must not only be healed, but he must be protected to all future time, not only from the consequences of predisposition, but from the effects of imprudent habits of life, exposure, or other source of attack. It is just about as reasonable to expect this, as that, being upset in a coach and having a limb fractured, should secure a man from being upset a second time and having his neck broken. We can have patience with such remarks when coming

from ordinary men, but when a learned physician puts forth such opinions as arguments for his scepticism, we are forced to infer that he has permitted prejudice to cloud his judgment.

As we are writing this book for the benefit of the uninitiated in the mysteries of the profession, we have thought it might be expected of us to say something on the diognosis, and treatment of consumption and other diseases, for the relief of which we recommend the Red Sulphur water.

Of the means of distinguishing affections of the lungs by immediate or mediate consultation or percussion, we will not speak: in the first place, because we do not feel competent to give any instruction in the premises, and in the next place, because no one but a professional man who has devoted much attention to these methods can obtain any satisfactory result.

The symptoms of acute or rapid *phthisis* are, according to Doct. Williams, in the *first stage*, induration and obstruction. The indurations are generally accompanied by various irritations, both local and general.

Of the local irritations the earliest is a cough, at first slight, but more or less constant. It is either dry or accompanied by thin transparent expectorations. Another sign of irritation is pain in the chest, a stitch, soreness or sensibility to cold or exertion more than pain. Of the more general irritations, quickness of pulse is most constant,—the quickness not uniform at first, but dependent upon any accidental excitement. As the organic lesion increases, it becomes more constant, and is accompanied by a general febrile state. This febrile condition is aggravated towards night, when the fulness and frequency of the pulse increase, attended with flushing of the face, heat of the palms of the hand, and the soles of the feet. This terminates by perspiration more or less profuse, which, occurring in the night, leaves the pulse lowered, but the frame weakened and exhausted in the morning. The symptoms of obstructions comprehend those from obstructions to the passage of the air, to that of the blood, and to the motions of the lungs in respiration.

The indurations by obstructing the passage of air to the air-cells cause shortness of

breath. Partial indurations sometimes cause shortness of breath, not only by their impediment, but also by occasioning dilatation of the air-cells. Indurations by obstructing the blood vessels may cause sanguineous congestion, hemorrhage, inflammation, œdema, gangrene, atrophy of the pulmonary texture, hæmoptysis, profuse bronchial secretion, effusion into pleura, disease of the heart, &c.

Hæmoptysis occurring in the early stages of phthisis is generally from this cause; and it is a serious symptom, not only because it may endanger life by loss of blood or direct suffocation, but also because it is often accompanied by hemorrhagic consolidation and rupture of the lung, which tend to accelerate the process and promote the further deposition of tubercle. In some instances, however, hæmoptysis is followed by decided relief to the dyspnœa and cough, having removed a congested state of the blood-vessels. How true are the following remarks of the same author: "*When once the integrity of a nicely adjusted apparatus like that of respiration is extensively injured, disorder begets disorder, and unless the counteracting or respiratory*

powers soon come into operation, unless the indurations are soon diminished or the blood-vessels closed, the whole of that part of the lung may become a solid mass."

Second Stage.—On the conversion of the gray or dark red indurations into the crude yellow tubercle, and during the original deposition of this matter, besides the symptoms of irritation and obstruction, which still continue, there are indications of loss of flesh and strength, and a general depression of the functions. The pulse loses strength although it is as frequent as before; the evening chills are more severe; the sweats are more profuse.

Third Stage.—The more truly consumptive symptoms which had begun to manifest themselves in the second stage, are developed fully when the tubercles become soft, partially or entirely liquid, and are evacuated by the aid of secretion and ulceration of the adjoining textures. Then comes on in addition to the symptoms before described, a copious and heterogeneous expectoration of pus, mucus, softened and occasionally solid tubercle, blood, shreds of lymph, and, not rarely, portions of pulmonary tissue in a sloughy fetid

state. Then occur the usual constitutional concomitants of extensive unhealthy, suppurating ulcers, confirmed hectic, with its successive chills, heats and sweating, occasionally diarrhœa and the increasing marasmus in this case rendered more pronounced, by the importance of the organ affected and the relation which it bears to the process of sanguification. Then are the dyspnœa and cough increased by the continual discharge of matter into the air-passages, and by the extension of the diseased depositions and ulcerations of the tissue."

To the preceding extracts of Dr. Williams, a portion of which we have somewhat condensed, much may be added, but it would answer no good purpose to dwell with minuteness on this part of our subject; we will therefore hasten to the treatment of the disease, so far as it may be connected with the agent which we have now under consideration.

At the threshold, we have to encounter the objection that tubercular consumption is incurable. On this subject we ask attention to the following extract of a letter from Dr.

Thomas D. Mutter, of Philadelphia. The history of the letter is this. He was informed by a friend that he was reported to have spoken disparagingly of the Red Sulphur, and, denying the charge, he wrote to us a letter, dated Philadelphia, Nov. 9th, 1841, from which we extract the following paragraph:

"I have said to many, as I would say to you or your son, or any well-informed physician, that the Red Sulphur *never yet cured* a case of tubercular consumption, and you know as well as I do that such is the fact, for there is *no cure* for this disease; but I have *always* said, both *privately* and *publickly*, that the Red Sulphur was a most valuable water in many cases *resembling consumption*, and that I had seen many such cases *perfectly cured* by the use of this water, when all other agents had failed to afford relief. Not only have I said this, but I have sent you many a patient, and hope to send you many more. Very truly, your friend

and well-wisher,

THOS. D. MUTTER."

The above extract is of great interest, because it virtually admits all that the advocates

of the Red Sulphur contend for, viz., "that it has cured cases *resembling* consumption, *when all other agents had failed to afford relief.*" Now this is praise enough, and we might rest the fame of the Red Sulphur on such admission, coming from such a source; but with all deference for the distinguished talents and great experience of that gentleman, we would suggest that his opinion of the incurability of consumption is too sweeping. We think we are fully impressed with the intractable character of the disease in its worst forms, and if our friend, Dr. M., meant to limit his assertion to these, there can be no difference of opinion on the subject; but if he means to assert, as his language seems to intimate, that tubercular phthisis is altogether incurable, we must respectfully dissent from his opinion, and offer some of the reasons why we do so.

In the first place, we ask how has this eminent physician discovered that the cases of cure he had witnessed only "*resembled*" consumption? We imagine this discovery can only be satisfactorily made by a *post-mortem* examination. Has he made this examina-

tion? It is not probable that he had the opportunity, for the cure is declared *perfect*, and if he did not, how can be certain that his opinion is correct? We are aware that Avenbrugger and Laennec have shed a flood of light on the diagnosis of disease of the chest; but the latter makes the following admission, which proves that cicatrices *may* exist without being discovered by auscultation. "These cicatrizations, especially when complete, and composed of a substance analogous to other natural tissues, produce no symptoms whatever that can denote their existence. I have only remarked in some cases, when there was reason to believe their existence, that the respiration was less distinctly audible in the supposed diseased point."

We shall notice this disease only under two heads—Acute and Chronic.

CHAPTER XIV.

Acute, or "galloping consumption," as it is frequently called, usually runs its course in from two to nine months, and is *wholly* unmanageable, and when it fastens on its unhappy victim, there is no alternative but to submit to the decree of that great Being in whose hands are the issues of life and death. It is usually the effect of hereditary taint, roused into morbid action by imperfect nutrition, bad air, exposure, disappointed affection, reverse of fortune, fevers, uterine derangements, and various other causes. The symptoms of this condition have already been enumerated. It is one before which the system falls prostrate, and in which we can do nothing but smooth, as we may by kind and delicate attentions, the passage of our friend to a brighter and better existence. But the chronic form of this disease is happily more under the control of remedies, and therefore should be

exempted by Dr. Mutter from the unqualified assertion he has made in the letter above quoted.

As in all diseases there are different grades of intensity, so in tubercular consumption there are grades—1st, of predisposition; 2d, of tubercular infiltration or deposition; 3d, of development; 4th, of ulceration; 5th, of marasmus; and lastly, there are grades of the power of resistance in different constitutions. This being the case, it is manifest the chances for recovery, perfect or partial, or of a fatal result, are in proportion to such grades. Now all modern writers agree that cases of recovery are frequent from slight attacks in the latter or suppurative stage.

The great Laennec makes the following remarks: "But while I admit the incurability of consumption in the early stages, I am convinced, from a great number of facts, that in some rare cases the disease is curable in the latter stages, that is, *after* the softening of the tubercles and the formation of an ulcerous excavation." Again, "I have at present under my care several patients affected with chronic catarrh, and who afford distinctly the sign of

pectoriloquism, although they have in no other respect any symptom of consumption. I have met with several other cases, wherein this phenomenon was observable along with a slight habitual cough, very little expectoration, and scarcely any marked alteration in the general health.

"In a lady, formerly a patient of Mr. Bayle, eight years since, and whose case was decidedly consumption, (as appears from Mr. Bayle's notes in her possession,) the sign of pectoriloquism is most distinct. This lady recovered beyond all expectation; she is now stout; and the only symptom she has at all referable to the lungs is a slight cough. I have no doubt the cartilaginous excavations exist in this person's lungs."

M. Laennec then gives several cases illustrative of what he has advanced, from which it appears fully that recovery is not only not impossible, but not unfrequent. Again, "I have often observed the above state of things without knowing to what to attribute it, and without attaching much importance to the appearance; *but after I was convinced of the possibility of cure in the case of ulcerations*

of the lungs, I began to fancy that nature might have more ways than one of accomplishing this end, and that, in certain cases, the excavations, after the discharge of their contents by expectoration or absorption, might cicatrize in the same manner as solutions of continuity in other organs, without the previous formation of the demi-cartilaginous membrane. In consequence of this idea, I examined these productions more closely, and came to the conclusion, that in every case they might be considered as cicatrices, and that in many cases they could hardly be conceived to be any thing else." Again, "In tracing the bronchial tubes near these masses, I have observed that such as held a direction towards them were commonly dilated. In some cases I have been able to trace them, as also blood-vessels, into the fibro-cartilaginous mass, with which, although obliterated, they formed but one substance. This fact seems to me to leave no doubt of the nature of these productions, *and of the possibility of cicatrization in ulcers of the lungs.*"

These observations are followed by two remarkable cases, which our limits forbid us

from quoting, and the author continues his remarks as follows:

"The foregoing observations prove, I think, that tubercles in the lungs are not in every case a necessary and inevitable cause of death; and that a cure may take place in two different ways, after the formation of an ulcerous excavation: first, by the cavity becoming invested by a new membrane; and secondly, by the obliteration of the excavation by means of a cicatrix, more or less complete, consisting of cellular, fibrous, or cartilaginous substance." Again, "When we consider that the formation of tubercles in the lungs seems to be the consequence of a general diathesis; that these are frequently formed contemporaneously in the intestines, where they ultimately occasion ulceration and colliquative diarrhœa; and that, in some cases also, they exist in the lymphatic glands, the prostate, the muscles, bones, &c., we must be led to believe that the most perfect cure that can take place in consumption is merely temporary.

"Admitting, however, the justness of this conclusion, *in those extreme cases of tubercular diathesis, (which after all are but rare,*

when compared with the vast number of consumptions,) we are still entitled to hope for the cure of many cases of phthisis, or, at least, for such a suspension of their symptoms as may be deemed almost equal to a cure, since the individuals may enjoy such a state of health as may enable them to fulfil all the duties of civil life for several years, or until such time as a fresh development of tubercles, at present immature, produces a fresh and final seizure."

Dr. Williams, in his dissertation on pulmonary consumption, says—"Tuberculous consumption is in its ordinary career a chronic disease; but the cases that particularly deserve this title are those in which the disease lasts for many years. Bayle and Laennec record instances in which patients appear to have had the disease thirty and forty years. But it is not to be supposed that in chronic cases the disease is always progressive. It owes its long duration to its limited extent, and although the lungs are never free from some of the lesions described as characteristic of phthisis, yet the continuance of the disease is chiefly marked by many successive attacks

and recoveries, dependent on the particular development of new tubercles, and their successive changes and elimination. As the rapid form of the disease occurs chiefly in young subjects, so this in most instances is met with at or after middle age; but it is by no means confined to any period of life.

"*It is this chronic or limited form of tubercular disease that affords the best chance for the remedial powers of nature and art; and there can be but little doubt that a considerable number of cases are cured.* On this paragraph the American editor, Dr. W. W. Gerhard, adds the following note: '*There is no doubt many such cases recover; cicatrices or calcareous* tubercles remain often in healthy persons.'" We might proceed to quote a great number of other authorities on this subject; but we think that we have already demonstrated that the opinion expressed by Dr. M. on the incurability of this disease is untenable.

Now, while we think that we have proven that the disease is not necessarily incurable in all cases, we trust it will not be inferred that we hold forth delusive hopes to any poor in-

valid who may place reliance in our opinion. We seek not to deceive a human being in this matter. We candidly acknowledge that there are annually many persons presenting themselves at the Red Sulphur, that are not, and cannot be benefitted, and whom, if we could have seen them before they left the comforts of home, and the kind attentions of friends, we would have advised against the journey; —but again, we *do say*, that if there *be* a hope left, it is in the water of the Red Sulphur.

We agree altogether with the opinion of Laennec, that it is in the suppurative stage alone that a cure may be looked for. It is evident that if the tubercle be *quiescent*, there is no inconvenience from it; when it has begun to soften, it progresses in spite of all remedies, and in slight cases, the sooner the better. When it is ripe, and in a condition for absorption, or finds its way into the bronchus, then is the period for the action of the Red Sulphur. It allays the general febrile condition of the system, without impairing the quality of the nutritive fluid, distributes the latter more equally amongst the different tissues and organs, and not only places the

lungs in the best condition to shake off the existing disease, but also prevents the deposition of other tubercles. If, while the tuberculous matter is discharging, the condition of the blood can be improved, so as no longer to form a degraded deposit, and the general powers of the system invigorated; if, moreover, we can find a remedy that will reduce the hurried action of the heart and arteries, without having recourse to depletion; that will calm the system, whilst it imparts tone and energy to it; that will restore to the kidneys their true share in the excretions, and prevent extenuation of the body by colliquative perspiration; then we may hope that we have found an agent that will enable the vital powers to resist and shake off the existing disease, and in a great degree remove the tendency to degeneration. *Such an agent is the Red Sulphur.*

The great principle upon which the Red Sulphur acts is the sedative principle. From whatever elements this principle has been imparted to it, it is manifest that it is the great lever by which it operates. Is it now denied that it possesses this power? Some few, who

are so constituted that they will resist any evidence, have expressed their scepticism; but they would not believe though one were to rise from the dead. To essay to convince such were a fruitless task, but we think the evidence is now, at least, too strong to be rejected by any one who is open to conviction.

In the pamphlet published by Dr. Huntt on this Spring, and which we adopt as part of our essay, there is evidence enough to satisfy any reasonable person of this and other qualities of the water; but we can furnish other and more recent evidence, and from a source that must command universal confidence. The letter which we subjoin was written to us by Dr. Scott, of Lexington, Kentucky. His motive is explained by himself. The reader will perceive that it bears the impress of truth, and is written for no other object than to do justice to the water, and to benefit the community. He had previously visited all the other Springs; first the Blue Sulphur, next the White, then the Hot and Warm, at the last of which we think he was seized with hemorrhage. He next visited the Sweet Springs and the Salt Sulphur, and finally

found his way to the Red. Here, then, is a proof beyond cavil, that the waters of all those Springs except the last were, if not actually injurious, certainly not attended with any relief; but the result of his experience in this equally demonstrates that he had finally found the appropriate remedy.

The distinguished reputation of this gentleman as a physician, and his great moral worth, entitle his testimony to all confidence.

"Blue Sulphur Springs, Va.,
Sept. 3d, 1841.

"Mr. Burke:

"Dear Sir,—On my way to this place, at a public house where we stopped to dine, I picked up a newspaper, the Western Whig, dated 14th August (last month), in which I find there had been a committee formed to take into consideration a report prevailing prejudicial to the curative qualities of the Mineral Waters at the Red Sulphur Springs, &c., &c., which report was proven to be false by said committee, as well as by a number of certificates signed by gentlemen of high reputation and intelligence.

"My object in now addressing you is a

double one, first to thank you for the very kind attentions of yourself and family while we remained at your romantic and beautifully secluded village, and add my *mite* to show that the waters of the Red Sulphur have not lost any of their medicinal and positively good effects in cases such as my own, viz., a vicarious discharge of blood from the lungs of nearly two years standing.

"I arrived at your establishment on the 23d or 24th of last month, with but little *faith* in the efficacy of the *waters*, yet was determined to give them a fair and impartial trial, divesting myself as much as possible from preconceived opinions and impressions derived from many reports for and against their medicinal qualities. First day, drank nine half-pint tumblers of the water in the course of the day, at different periods, and as it is usually directed to be drank. Second day, twelve, and third day sixteen tumblers full, which last number I continued to take five more successive days. First and second days, they (the waters) operated profusely as a diuretic; third day, very delightfully also on my skin as a *diaphoretic*, preserving my bowels in a

healthy state; on the fifth day, had copious bilious evacuations, as much as I ever experienced from an active *portion of calomel.*

"At the commencement, and for three months previous, my pulse had been not less than 100 and 110 distinct pulsations in every *minute*, that is, 100 beats in the morning, and 110 in the afternoon and evening, attended with occasional cough and hemorrhage from my lungs. Using the Red Sulphur waters as above stated, my pulse was gradually lessened in strength and *quickness*, on the third day, to 70 beats in the morning, and 80 and 84 in the evening, at which it (the pulse) continued regularly, without the variation of a single pulsation, during the five more days I remained with you. I used the waters eight successive days only, and I do assure you, sir, that my health has not been at any time in the last two years so perfectly good, and free from all uncomfortable feelings.

"My statements cannot be any advantage to you amongst strangers to me, but I humbly hope they will be relied on by my friends and acquaintances in the *West* and *North-West*, where I have been known extensively as a

practitioner of medicine for very near *forty years.* I am, dear sir,

Very respectfully yours,

JOSEPH SCOTT."

We subjoin, also, a letter we have received from Daniel Gold, Esq., of Washington, which is of great interest, on account of the low condition of Mr. Gold's health when he reached the Springs. This case also exhibits an important case of arterial excitement, and we think should satisfy any reasonable person of the value of the water in pulmonary affections.

"Washington City, Nov. 16th, 1841.

"My dear sir,—I have purposely delayed advising you of the state of my health since my return to this city. The change which came over me while under the operation of the Red Sulphur water was so sudden, and so great, that I confess I doubted whether the good effects would be permanent. It is now upwards of two months since I left the Red Sulphur Spring, and I am happy to be able to assure you that my health is even better than when I left you. My cough and expec-

toration, which was confined almost entirely to the morning when I returned to this city, has now pretty much subsided, and my lungs are evidently stronger than they were then. I have, moreover, gained some two or three pounds in weight since I returned.

"I started for the Red Sulphur with very little faith in the virtue of the water, and the little I had was destroyed before I arrived there, by reports which I had heard injurious to its character. It was represented as being situated in a cold and foggy place, and to have lost all its healing qualities in consequence of a vein of *common water* having recently found its way into the Spring. All who went thither with lung complaints were said to die there, or to go away past recovery. The road, also, between the White Sulphur and the Red was spoken of, and I. with others, was occasionally entertained with accounts of frequent stage accidents which happened thereon, not unfrequently attended with broken legs and broken heads, &c., &c.

"Those things, however, were mentioned, not *as if* to deter any one from going to the *Red Sulphur*, but merely for information as

to what those might *look out for* who were hardy enough to venture beyond the White, and particularly beyond the Salt. I went there because my physician, Dr. Miller, of this city, a gentleman eminent in the medical profession, directed me to go; and I was agreeably disappointed in finding not only as good roads beyond the White Sulphur as I found this side, but the Red Sulphur Spring situated in a place, to my taste, infinitely more wild, beautiful, and agreeable, than that of either the other Virginia Springs, the Blue excepted, which I did not visit. During four weeks I spent at the Red, I gained thirteen pounds, and strength enough to climb any of your *little Alleghanies* except that one directly back of your hotel, which is so steep, you know, that it hangs over a little. All soreness about my lungs, which I felt in leaning forward, lying down, or inhaling a long respiration, and which had grown to be very unpleasant, vanished entirely. A rattling, as of phlegm in my throat, but which probably was in my lungs, pretty much subsided; and before I left I could lie without inconvenience upon my right side, or the back of my right

shoulder, which I had not been able to do for many weeks before.

"My cough was first occasioned by sleeping in damp sheets in the berth of a steamboat at the North, on a chilly night about the last of August, 1840, and it had become very obstinate. I left here after the adjournment of Congress, that summer, worn out with the fatigue and hard labour always consequent upon the close of a session, poor in flesh, and poorer still in health. In short, altogether unfit for official duty, and undoubtedly far more liable to severe injury from such exposure than I otherwise should have been.

"The day after my unfortunate night's rest, I felt sorely afflicted, and soon my cough commenced. I thought it but the result of a bad cold, which I could easily brave out, and neglected that early attention to it which it required. But instead of getting rid of it, I was constantly taking *little colds*, and the consequence was, that I was unable to attend to business half of last winter. As spring opened I partially recovered, and for a few weeks I was nearly rid of the cough. Early in June last, warm as it was, I was so unfor-

tunate as to take another cold, which brought on my cough again worse than ever. Soon after, indigestion, which had troubled me slightly during the latter part of the winter and spring, became very severe and destroyed my appetite; and from that time I wasted rapidly. When I left here for the Red Sulphur, I could hardly pull myself up into a stage-coach, I was so feeble; and when I arrived there I weighed but 105 lbs. My pulse too was on an average above 90, and when I left it was below 70.

"If I have the good fortune to escape a cold the coming winter, I have no doubt that I shall eventually enjoy as sound health as ever. Very truly, your friend,

DANL. GOLD.

"To Mr. Wm. Burke."

The following extract is from Hare's Chemistry, an authority always entitled to confidence, but especially so when he speaks, as in this instance, from personal experience. He was a visiter at the Red Sulphur in 1832, when we purchased, and experienced in his own family the benefits of that water.

"It has already been stated that water impregnated with sulphuric acid exists in many natural Springs, which are much frequented by invalids. The celebrated White Sulphur, Salt Sulphur, and Red Sulphur Springs of Virginia are of this nature. They appear particularly efficacious as remedies in cutaneous diseases.

"The Red Sulphur Springs are thought to be particularly useful in some pulmonary complaints, and *have a surprising and unaccountable influence in lowering the frequency and force of the pulse.*"

CHAPTER XV.

(*Dr. Huntt.**)—In March, 1837, I was attacked with a slight hemorrhage from the lungs, attended with other symptoms indicating a diseased state of those important organs. For a time I neglected to resort to medical treatment, and continued to pursue my professional labours until warned by my failing strength that the disease was gaining ground. By the application of the usual remedies the violence of the symptoms was soon subdued, and in a short time I felt myself sufficiently restored to resume my usual labours; but with the exercise my wonted strength did not return; the cough continued, with occasional pain in the chest, and an uneasy sensation of fulness about the liver, stomach, and spleen. These symptoms, after a time, were attended

* "A Visit to the Red Sulphur Springs of Virginia, during the Summer of 1837; with Observations on the Waters. By Henry Huntt, M. D."

with increased cough, copious, morbid expectoration, hectic chills, fever, and night sweats ; my weight was reduced from 135 to 115 lbs.

Such was my situation, when, about the middle of July, I left home for the Red Sulphur Spring, in Virginia. On the third evening I arrived at the Warm Spring, a distance of 230 miles from Washington, and immediately after getting out of the stage I plunged into the delightful bath of that place, an imprudence against which I would earnestly caution all invalids, who arrive after a long journey, with the system exhausted by fatigue. The consequences in my own case warrant me in pronouncing it to be fraught with great danger. While in the bath, its effects were very grateful and pleasant ; but shortly after leaving it, I became chilly, and this feeling was followed by a hot skin, intense headache, and pain in the chest. After breakfast the next morning, though still very unwell, I continued my journey, and arrived before night at the White Sulphur Spring, where I remained two days, drinking freely of the water, which seemed only to increase the cough and pain in the chest, and produce an aggravation

of all the other symptoms. Leaving this place on the third morning, I passed Union at noon, dined at the Salt Sulphur, and before sunset arrived at this celebrated fountain, for the benefit of whose waters I had left home. The Red Sulphur Spring is situated in latitude 37° 37′, in Monroe county, Virginia, about twenty miles south-west of Union, which is the seat of justice for the county. The approach to the village is beautifully romantic and picturesque. Wending his way around a high mountain, the weary traveller is for a moment charmed out of his fatigue by the sudden view of his resting-place, some hundreds of feet immediately beneath him. Continuing the circuitous descent, he at length reaches a ravine, which conducts him, after a few rugged steps, to the entrance of a verdant glen, surrounded on all sides by lofty mountains. The south end of this enchanting vale, which is the widest portion of it, is about two hundred yards in width. Its course is nearly north for about one hundred and fifty yards, when it begins gradually to contract and change its direction to the north-west and west, until it terminates in a narrow point.

This beautifully secluded Tempe is the chosen site of the village. The north-west portion is occupied by stables, carriage-houses, and shops of various sorts; the southern portion, just at the base of the east and west mountains, is that upon which stand the various edifices for the accommodation of visiters. These buildings are spacious, and conveniently arranged; the servants are prompt and obedient; and the "table d'hôte" is abundantly supplied with a variety of viands that can tempt the appetite. The promenades, which are neatly enclosed by a white railing, are beautifully embellished, and shaded from the mid-day sun by indigenes of the forest, the large umbrageous sugar-maple (*acer saccharinum*). The Spring is situated at the south-west point of the valley, and the water is collected into two white marble fountains, over which is thrown a substantial cover.

At the distance of a few hundred yards from the Red Sulphur Spring, up the south ravine, is another Spring, supposed to be a chalybeate of a *singular* character. My situation did not permit me to make a satisfactory examination of its water, but I should be highly

gratified to know the particular character of the water of this Spring.

The forest trees of the eastern and western mountains have been cut down by Mr. Burke, the present worthy proprietor of the Spring, so that this delightful glen enjoys the purifying influence of the sun from 7 o'clock in the morning until near 5 in the afternoon, which makes the grounds much drier than they formerly were, and less liable to morning fogs. Regular stages, or post-coaches, arrive here daily both from the north and south. It is but justice to the amiable and intelligent proprietor to say, that the improvements he has made within the short period of four years, since he has had the control, give assurance that, should he live a few years longer, the Red Sulphur Spring will not be excelled by any of the numerous places of resort among the salubrious mountains of the Old Dominion, either in magnificence of scenery, beauty, taste, comfort, or health.

On the evening of my arrival at the Spring, I commenced the use of its water. The next day, during a violent paroxysm of coughing, a coagulum of blood was discharged from the

lungs, which was followed by considerable hemorrhage. After this, the cough became less troublesome, but the evening exacerbations of fever and the night sweats continued, my pulse beating 115 strokes in a minute. I confined myself to a low diet, and drank six glasses of the water during the day, namely, two before breakfast, one at 11 A. M., one at 5 P. M., and two at bed-time. The water acted freely on the bowels, and particularly on the secretions of the liver. In ten days, the abdominal viscera were entirely relieved, the pulse reduced to 78, and the fever and night sweats had ceased. The quantity of water was now increased to twelve glasses during the day, taken at the same hours, but in double doses. It acted very gently on the bowels and skin, but most powerfully as a diuretic. Thus it appears that in small quantities the water acted freely on the bowels, and but little on the kidneys, while in larger quantities it acted freely on the latter, and scarcely affected the former. In fact, I could direct its action to the one or the other at pleasure, by increasing or diminishing the quantity. My cough became better, but my strength still

continued feeble, owing to my extremely low diet, and the copious action of the water. Unfortunately I took but little exercise, which I deem all-important while using the waters.

After a residence of three weeks at the Spring, and the constant use of the water during that time, to the manifest alleviation of the most pressing symptoms of my complaint, I was unexpectedly called home, in consequence of the illness of a member of my family. In the commencement of my homeward journey, my weak state compelled me to make very short stages; but as soon as I had crossed the mountains, and resumed my usual mode of diet, my appetite and strength returned rapidly, and I completed the distance of 306 miles in five days, without feeling the slightest inconvenience. The water seemed to produce its good effects in the improvement of my health for months after I had left the Spring.

In a conversation with Mr. Harvey, a plain, honest, and sensible man, who was the former proprietor of the Red Sulphur Spring, I gathered the following facts, which I give in his own words. He stated "that he had lived at and

about the place for upwards of forty-three years. The Spring was first visited by the neighbours for itch, sore legs, and other inveterate diseases of the skin, which were always cured by drinking, and rubbing the parts affected with the muddy deposit. About thirty-six years ago, Dr. John Cabell, of Lynchburg, Va., was the first person who visited the Spring for a cough, and disease of the throat, attended with chills and fevers. He remained here several weeks, and returned home much better. The next season, several other persons came, with cough, and every appearance of consumption. Afterwards, the number of visiters afflicted with this disease increased every year. There are many persons now living, within my knowledge, (said Mr. Harvey,) and enjoying excellent health, who visited this Spring many years ago, to all appearance in the last stage of consumption. The visiters who were the most benefitted by the water, remained here five or six weeks, confined themselves to a diet of rye mush and milk, and were industrious in rising early, drinking the water, and taking exercise. Others, who indulged themselves in eating,

sleeping late in the morning, and lounging about during the day, derived but little advantage from the use of the water, and generally returned home dissatisfied. The cold plunging, or shock bath, was used in those days with decided advantage. I never knew a case injured by the use of the cold bath. Many cases of dropsy visited the Spring, and I never knew an instance where they were not relieved by the use of the water. One of my neighbours was cured many years ago by the use of this water, and now enjoys excellent health. I have known many persons affected with complaints of the liver and bowels completely relieved by the Red Sulphur water. From the 1st of May to the middle of November, is the proper time for using the water to advantage, but I think it is strongest in its various virtues during the months of September and October."

The following was presented to me by Dr. Saunders, the resident physician, as an analysis of the Red Sulphur water, made at the Spring by Professor Rogers, the Geologist of Virginia; but it certainly does not satisfactorily account for the wonderful effects of the water.

"Temperature of the Spring, 54° Fahr.

Gaseous contents in an imperial gallon :—

Sulphuretted hydrogen,	4·54 cub. in.
Carbonic acid,	8·75
Nitrogen,	4·25

"Solid contents of 32 cubic inches of water, gr. 1·25, consisting of sulphate of soda, lime and magnesia, carbonate of lime and muriate of soda. Besides these ingredients, the water contains, in considerable quantity, a peculiar organic substance, which, mingled with sulphur, is deposited on the sides of the Spring, and seems to increase by a species of organic growth."

The Red Sulphur water is decidedly sedative in its effects. It subdues chronic inflammation, tranquillizes irritation, and reduces the frequency of the pulse in the most astonishing manner.

It has been considered peculiarly adapted to the cure of pulmonary diseases, and it is true that it has a most beneficial influence on most cases of this disease ; but its good effects equally extend to all cases of sub-acute inflammation, whether seated in the stomach, liver, spleen, intestines, kidneys, bladder, and

most particularly in the mucous membrane In fact, nature never yet gave to man a reme dy capable of more extensive application, or better calculated to relieve a larger class of diseases.

It is not uncommon for persons to arrive at the Spring, who have not been able to sleep during the night, even with the aid of opium, and who, after drinking the water for a few days, find their nervous irritation so soothed and allayed, that no other anodyne is required to procure them full repose for the night. This fact is so striking, that a young lady of this place, in writing to her father from the Red Sulphur, facetiously styles it "Sleepy Hollow." The soporific effect of the water was most forcibly exemplified in the case of Mr. C. Smith, of Georgetown, D. C., a gentleman of the highest respectability, who had been for some time labouring under chronic laryngitis, and had not enjoyed sleep for months, even with the aid of large doses of morphia. He arrived at the Red Sulphur a few days after myself, and immediately commenced a free use of the water. The third night after his arrival, he slept soundly all

night, without either coughing or turning in bed, and not only continued to sleep well every night during the use of the water, but was compelled, from the drowsy feeling which it produced, to indulge himself in more than one nap during the day.

In a letter, dated some years ago at this Spring, from the late F. W. Gilmer, Esq., professor of law in the University of Virginia, he says: "These waters are far superior to all others. In a few hours they allayed my cough so as to take away all that was unpleasant in it. They diffuse a sense of coolness, freshness, and newer life over the whole system. They abate the pulse most rapidly, remove fever, lubricate and soften whatever is hard and dry, make one sleep as though he had taken an anodyne, are the safest of all waters, and, indeed, have no ill quality."

The late venerable Dr. R. H. Bradford, of Va., who practised medicine for many years at the Red Sulphur, in a communication on the subject of the water, remarks: "The effects of this water in reducing the frequency of the pulse, is one of the numerous, singular, and powerful properties belonging to it. It

lessens arterial action to such a degree, that it seldom fails to remove fever, difficulty of breathing, and pain in the chest. When the patient is restricted to a proper regimen, this water may be taken with greater advantage, in all pulmonary cases, than any other remedy I have ever seen employed for that purpose. It is also an important remedy in enlarged liver and spleen, and in diseases of the mucous membrane generally."

The Rev. W. M. Green, a pious, good man, of Hillsboro', North Carolina, makes the following communication, dated October 15th, 1837. "In the month of March, 1830, (being then in my 32d year,) I was taken with a distressing cough, which would scarcely permit me to speak half a dozen words successively without interruption. The attack was doubtless the effect of much exposure in travelling the preceding winters, hastened and aggravated by certain symptoms of dyspepsia, which had been increasing upon me for some months previous. The symptoms of my disease, when first taken down, and for a long time after, were an incessant hacking cough, and clearing of the throat without expectora-

tion, a sense of choking or suffocation in the lower part of the larynx, which afterwards became inflamed and painful, a pulse varying from 100 to 120 strokes in a minute, a stricture across the breast preventing full inspiration, dark greenish stools, lateritious urine, copious and exhausting night sweats, sleeplessness, great nervous irritability, a craving appetite, with oppression after eating, insatiable thirst, frequent involuntary sighing, and more or less fever during the day, especially in the afternoon.

"The medicines first administered were brown mixture, and other expectorants of a similar kind, together with the free use of tartar emetic ointment. My disease, however, seemed to gather force, until a temporary check was given by the exhibition of calomel in broken doses, until salivation was produced, which alleviated some of the most distressing symptoms. As soon as I had regained sufficient strength for the journey, I set out with a kind friend to spend a few weeks near the sea-coast. The trip, however, was without sensible benefit, owing to the prevalence at the time of raw easterly winds, and I returned

to all appearance the same, if not worse than on leaving home.

"Having heard much of the efficacy of the Red Sulphur water, I determined to try it. Accordingly, leaving home early in July, I reached that place about the 10th, confining myself closely to the use of the water, and of the sulphur shower-bath, for nine weeks. I had not been at the Spring more than two days before I began to experience a favourable influence on my system generally, as well as an amelioration of some of the principal symptoms of my complaint. My pulse soon felt the *wonder-working power of that mysterious tempest-stilling agent* which resides in those waters. Arterial action was greatly reduced, the nervous system composed, the cough brought down to a mere fractional part of its former proportions, digestion improved, sleep restored, urine rendered colourless, the stricture across the breast less oppressive, night sweats lessened; in a word, every painful and dangerous feature of the disease was moderated, and time allowed to shake off the enemy. The two most striking effects produced by the use of this water were the evident

reduction of arterial action, at the same time that the general system was recovering its tone, and the total extinguishment of that burning thirst which had been tormenting me for more than twelve months. I hesitate not to state here, what may appear incredible to many, that for nearly six months after I returned home I felt no symptom of thirst, whereas, before my going to the Spring, scarcely fifteen minutes would elapse during the day between my calls for water. This latter effect was still more strikingly experienced in the case of the Rev. Mr. H**t, of Halifax county, Va., who assured me, after visiting the Spring a single season, he remained eighteen months a stranger to thirst. As to the effect on my pulse, although it was decidedly marked and beneficial, yet there were other cases under my own observation of still more striking character. One I distinctly remember, that of a Mr. Boal, a young Irishman, residing in Lynchburg, Va. He came to the Spring by the advice of his physicians, who saw in him the well-known symptoms of pulmonary disease. On his arrival, the average stroke of his pulse was from 110 to 120 in a

minute. In *three days*, without the aid of any other means than the free use of the water, it was reduced to the healthful beat of 65 strokes in a minute. The case of Mrs. B****r, of Raleigh, is no less remarkable; such was the effect of the water on her arterial system, that a single glass was known to reduce the pulse 10 beats in a minute.

"My usual habit was to drink three or four glasses of the water before breakfast, three at 11 or 12 o'clock, two about 5 o'clock in the afternoon, and two on going to bed. I am convinced that what was taken late at night, and very early in the morning, was more efficacious than all the rest taken during the day. My exercise consisted in a ride of three miles before breakfast on horseback, another about sunset in my carriage, and in the interval an occasional game at the shuffle-board—a game, though not very refined, unquestionably admirably adapted to exercise a weak chest.

"It may be well to mention here, that on my return home, my appearance was so little improved, as to produce the impression among my friends that my trip had been without

benefit. Nor was the improvement which really had been produced, perceived in its extent, even by myself, until I had been at home a week or two. I mention this for the encouragement of other invalids, who return home dejected and hopeless, because they do not experience the immediate good effect of this and other Sulphur waters. The effect is, in many cases, felt only after the fatigue of the journey is over, and the noisy bustle of the watering-place forgotten amidst the comfort and quiet of home. I will only add, that after my return, I was enabled occasionally to occupy my pulpit, and to enjoy the society of my friends.

"The next season I sought the mountains again, but finding my pulmonary symptoms in a great measure removed, and my dyspepsia but little abated, I spent the greater part of my time at the White Sulphur. A third visit, two years after the second, served to remove every unpleasant symptom, and put the blessing of health once more in my reach. At this moment, the only remnant of disease, which all my friends, and nearly all my physicians, pronounced to be *phthisis pulmonalis*,

is an appetite which often needs the bridle of just moderation.

"To Him who preserved me be all honor and praise."

Mr. James Boal, of Lynchburg, who lost two brothers by pulmonary consumption, in a communication dated Red Sulphur, August 5th, 1837, states: "A change of life, from being an active farmer to that of a sedentary store-keeper, produced constipation and general debility (especially in my arms and knees,) a dry tickling sensation in the throat, slight cough, and but little expectoration. The tightness increased, until riding a refractory horse, I had an attack of hemorrhage; the discharge at first was pretty copious, of a scarlet frothy appearance, moderating to a mixture of bloody phlegm. My nights were passed with but little sleep, and that disturbed by troublesome dreams. In the month of June, 1828, had an attack of diarrhœa, and was very much reduced. About the 1st of July, 1828, I visited the Red Sulphur Spring. My pulse on my arriva., (when free from excitement,) was about 120 pulsations in a minute. Commenced drinking the water, and in one week

my pulse was reduced to 65 strokes in a minute, with an improvement in my strength and feelings generally. Supposing my cure effected, I omitted the use of the water for a few days, and found my pulse increasing in frequency. I again used it three weeks longer, when my pulse was reduced to its former standard, of 65 strokes in a minute. My course of diet—for breakfast, dried toast and boiled milk, or black tea; for dinner, a little venison or mutton, rice, or cold wheat bread; for supper, cold rye mush and milk, always guarding against rich sauces or pastry; took exercise in the open air. My plan was, to drink freely, say six or eight glasses of the water before breakfast, keeping in constant motion. The general operation of the water was that of a diuretic, and by taking exercise, perspiration was very copious. My bowels were regular, once a day, and have continued so (except from casual indisposition) ever since. I visited the Red Sulphur in the summer of 1829, and had my general health so completely restored, that I am now here in August, 1837, on a visit to my old friend and benefactor, in perfect health."

The following communication is from Chief Justice Taney, of the Supreme Court U. S., dated Baltimore, Jan. 8, 1838:

"The information you have received as to the benefit derived from the Red Sulphur Spring by Mrs. Taney and myself, is correct. We spent six weeks or more there, in the summer of 1835, and both of us were in bad health when we went there. The journey, however, was taken on Mrs. Taney's account, and by the advice of Dr. Potter and Dr. Buckler. Her health had been failing for several years, and her lungs were supposed to be seriously threatened. She complained of a pain in her breast, coughed a good deal, and had an excited and quick pulse. The alarming symptoms were entirely removed by her visit to the Red Sulphur, and she has since enjoyed her ordinary health. It is proper, perhaps, to remark, that although Mrs. Taney felt in some degree the benefit of the water, while she remained at the Spring, yet we were not sensible of the extent of the improvement until some time after our return home. Both of us have since had much better health than we had known for years before, and we both

have great confidence in the efficacy of those waters, and, I may add, retain a lively recollection of the kind attentions of Mr. and Mrs. Burke while we remained there."

CHAPTER XVI.

(*Dr. Huntt.*)—The following four cases were communicated by a distinguished physician of South Carolina, who passed the summers of 1822-23 and part of '24 at the Red Sulphur Spring, and whose name commands as much respect and confidence as that of any other gentleman in the Southern country:

"I shall give you a few of the very many cases that have come under my notice, of the efficacy of the Red Sulphur water in pulmonary diseases. This is due to the community, and also to the intelligent proprietor, who unites in himself the good manners and politeness of a gentleman, with the capacity and disposition to add all that he can to the comfort, both of the valetudinarian and traveller who may be in pursuit of pleasure.

Case 1.—"In the winter of 1821, it became the duty of B. H. to devote himself to his friend, A. B., far advanced in pulmonary dis-

ease. B. H. was in good health, and not in the slightest degree predisposed to pulmonary consumption, either by figure or inheritance. A. B. died during this winter with the tuberculous form of this disease. In the spring, B. H. began to feel pains in the chest and sides, and frequently to have a tickling sensation about the epiglottis. In July, a slight cough made its appearance, and after a week or ten days, was followed by an attack of hæmoptysis. The use of the lancet, low diet, and some mild expectorant, afforded so much relief that the usual occupation of B. H. was resumed. In August, another attack, more severe, was experienced, and a troublesome cough excited more alarm. The usual remedies were used, and with relief. In September, a severe attack ensued, a large vessel was ruptured, nearly a pint of blood was thrown up from the lungs, and great emaciation took place. The cough could not be checked, and in October B. H. sailed for the Island of Cuba, with little expectation of ever returning; but his situation was improved by the mild winter of this delightful climate. In April, 1822, he returned to Caro-

lina, still coughing. His situation now became very alarming to his friends, and it was decided that a trip to Virginia should be tried. B. H. rode through the western part of North Carolina and East Tennessee, and came into Western Virginia at Abingdon, and reached the Red Sulphur early in June. At this time I was called upon to visit him, and found his pulse 106, cough troublesome, pains in the chest, appetite very variable, tongue preternaturally clean, bowels much disordered and irregular, skin dry and feverish about noon. I directed three tumblers of water to be taken at bed-time, four before breakfast, and as many as were necessary to satisfy thirst during the other times of the day. In two weeks, the pulse was reduced to 84, 78, and then 75; the cough very much diminished, the pains in the breast were gradually disappearing. The digestion became good, the bowels regular, the skin comfortable, and the appearance of the patient much improved. The diet was very simple, and the greatest attention was paid both to the quality and quantity of it; tea and coffee were abandoned; homony, rice, or rye mush, with milk, constituted the break-

fast; a small portion of mutton or venison, with rice, made the dinner, and dry toast and water the supper. At the end of five weeks, B. H. left the Spring perfectly renovated, and apparently quite well, having gained 15 lbs. in weight.

"In 1823 and '24, he again visited the Spring, and remained several weeks; he was not sick, but unwell, and returned to the Spring rather to confirm, than to renew his health. This is a strong case. The circumstances of it authorize me to make it stronger, but I am unwilling to excite doubts of the value of the Spring, by writing extravagantly of its water."

Case 2.—"Mr. J. S., of Mississippi, reached the Red Sulphur Spring in July, 1822. I being the only physician on the spot, was requested to visit him professionally. I found my patient the most emaciated object I ever saw, to be moving from place to place. The history of his case, as I learned from himself, was very concise. He had been a soldier at New-Orleans, and bore his share in the dangers and difficulties of the campaign, had suffered much from exposure, and at the close of

the war, was, like the rest of the volunteers, sent home, and like many others, was the worse for the services he had rendered. His constitution was shattered, and he had been, more or less, an invalid, until within a few months of his arrival at the Red Sulphur. A severe cold had left him with a cough, and after a while, this had been succeeded by hæmoptysis of a most alarming character; repeated attacks left him without strength, and without hope. He had no hereditary predisposition to pulmonary disease. He had been on the road for some time, and seldom travelled more than five miles a day. His cough was very distressing, pulse quick to the touch, and counting 125 in a minute, night sweats and diarrhœa, pains in the chest, and very hurried respiration, with profuse expectoration, all presented themselves. To me this seemed a hopeless case, and, as I thought, beyond the reach of the profession. A large blister was applied to the chest, an expectorant mixture was prescribed, a table spoonful to be taken whenever the cough was troublesome. He was directed to commence with the water in small quantities, (for I was

fearful of increasing the diarrhœa.) He took two tumblers at bed-time, and two in the morning early. Upon visiting him the next day, I was informed that he had passed a comfortable night, comparatively speaking, had slept several hours, and was not as much harassed as usual, either by the bowels or cough. He was directed to live upon rice and milk, dry toast, and weak tea. This plan was persisted in, as my notes show, for ten or twelve days, with a gradual improvement in the case. After this time, the water was increased to eight, and sometimes ten tumblers in the day. The pulse was soon reduced in force and frequency, and the cough much mitigated. The sweats at length ceased, and the diarrhœa disappeared. The effect of the water upon the pulse in this case was very remarkable; it seemed to control it as you would the horse with the bridle; the patient was so sensible of this, that he used to laugh, and say, *if he took an over-dose of the water, his pulse, he believed, would cease entirely.* He rode on horseback at the end of a few weeks, ten miles, without inconvenience; his weight was very much increased, and he

thought himself well. In six weeks after his arrival, he left the Spring, certainly more improved than any one I had ever seen, with no symptoms of disease remaining except the cough, and that very much mitigated. In 1823, Mr. J. S. returned to the Spring, and I saw him daily; he stated that he had continued well until March, when a sudden change of weather, for which he was not prepared, brought on a catarrhal affection, upon the subsidence of which, a cough, and much debility ensued. He remained for three weeks, and again left us in good health, with the exception of a cough, which was by no means troublesome. From this period I have heard nothing of Mr. J. S., but am persuaded that he recovered entirely."

Case 3.—"Mr. J. C., of North Carolina, was directed to go to the Virginia Springs by his medical adviser, in 1823; but was left to find out the particular Spring that was adapted to his case. I was on a visit to the —— Spring, and found Mr. J. C., who, upon hearing that I was a medical man, asked for advice. He was of a robust habit originally, (as he stated,) and was most unexpectedly attacked by hæ-

moptysis, whilst in the midst of his usual occupations, which were mercantile. His strength was at this time considerable, his pulse full and strong, respiration laborious and painful, skin dry, appetite inordinate, and the cough allowing him no rest at night. I used the lancet very freely, limited the diet to bread and milk, and water, and desired him to remain quiet. Upon the ensuing day, the lancet was again used freely, the symptoms not being mitigated; on the third day, there was little or no improvement, and I desired him to proceed to the Red Sulphur, and to use the water in full doses, say, four tumblers before bed-time, and four before breakfast, to live low, to take no exercise, and be as quiet as possible. In a week or ten days I returned to the Red Sulphur, and the first person that greeted me was Mr. J. C.; his symptoms had all subsided, which the lancet failed to control, and yielded at once to the use of the water. This is certainly a most remarkable property in this water, but it is so well known to the surrounding country, as well as to numerous persons who have visited the Spring, that we incur no risk in making the statement

we have. It is also peculiar to the water, that although on the lowest diet, the strength improves, and the weight is uniformy increased. After some few weeks Mr. J. C. returned home, restored to the enjoyment of health, and I have never heard of his return to the Spring, which he would certainly have done had it been necessary to do so. I could go on, my dear sir, and add case after case; but it is unnecessary to do so, the reputation of the Spring is too well established to require any eulogy. I will add one more case, and that not of a pulmonary character, in which the water of the Red Sulphur evinced all the virtues that I have attributed to it in the cases stated."

Case 4.—"General B., from Prince Edward county, in Virginia, arrived at the Red Sulphur Spring in August, 1823, so much swollen as to be taken from his carriage with difficulty. The face, hands, feet, and legs, were swollen to an enormous size; the abdomen was absolutely pendulous, and the whole appearance indicated dropsy in its most terrible form. The bowels were torpid, the urine scanty and high-coloured, the appetite bad,

and the digestion worse, sleep was disturbed and painful, from the inability to lay down, and the strength reduced, and daily becoming less.

"The General seemed in much better spirits than could have been expected, and stated, that he had come there on a former occasion quite as sick as we then saw him, and that he had reason to have all confidence in the water. No medicine was taken, but the water was used in such quantities as the stomach would bear. In a few days the bowels became loose, and at the same time the kidneys began to secrete and pour forth urine in large quantities. The swelling of course began to subside, and all the functions to assume a more healthy tone and character. The General remained until the latter end of September, and returned home apparently in good health. The patient whose case has been stated, lived in a fever and ague country, and had suffered much from this disease; his liver was certainly very much deranged in function, if not in structure; his physicians at home had pronounced it an incurable case of hepatitis, and did not think he could reach the Spring.

"In '24 I saw the General at the Spring again; his health was apparently good, but he complained of indisposition, and certainly improved during his residence at the Red Sulphur. I have thus, my dear sir, made from my notes the statements herewith sent you. I could multiply them to a considerable extent, but it is useless, as they all go to prove the same thing, viz., the influence that the Red Sulphur water exercises over the arterial system. I shall not attempt to reason the subject; it would be satisfactory to me if I could account for the facts, but it is sufficient for me that the facts do exist.

"I do not wish to be understood as stating that the water of the Red Sulphur will cure confirmed phthisis, or tuberculous consumption; but I believe that we are very often mistaken, in supposing a case of pulmonary irritation more desperate and hopeless than it really is, and I believe that in most cases, if this Spring is resorted to early, and the clothing, and diet, and exercise, duly attended to, its waters will be found a most powerful adjunct and assistant in the management of these hitherto unmanageable cases."

During my visit to the Red Sulphur, every day was devoted to the investigation of the various diseases which afflicted the visiters at that place; noting particularly the effects of the water in the different diseases.

Most of the cases were various forms of pulmonary consumption. In the earliest stage of tuberculous disease, the patients generally complained of abdominal plethora, with cough, some oppression, and restless nights, with frequent pulse. In all these cases, where the water was taken in such quantities as to operate on the bowels for a week or ten days, and afterwards increasing the quantity so as to act freely as a diuretic, and the patients were abstemious in their diet, and took exercise regularly, a rapid improvement was most generally the consequence. On the contrary, those who used but little exercise, and indulged their appetite without restraint, were slow and tedious in their convalescence. Let it be impressed on the minds of all tuberculous patients, that *sedentary habits* are among the most powerful causes of tuberculous diseases.

Many persons arrive at the Red Sulphur, who are not prepared to use the water, in con-

sequence of high inflammation, or congestion of the lungs or other organs, attended with pain in the side, constriction at the breast, or hot and restless nights, with a quick, sharp pulse ; all such cases must have the vascular excitement subdued, before the water can be taken to advantage. I saw several of those cases under the management of *Dr. Saunders*, the resident physician of the place, who treated them very successfully, by means of bleeding, local and general, emetics of ipecac before bed-time, blisters, and occasionally the blue pill.

Most of the visiters at the Red Sulphur this season were labouring under tuberculous consumption, of the second, or middle stage; many of them had visited the Spring one or two seasons, and there was scarcely an exception among them, who had not experienced one or more attacks of hæmoptysis ; and *hæmoptysis* may generally be considered as an indication of tubercles in the lungs. Those who had visited the Spring before, would say, that they returned home apparently cured, cough, night sweats, expectoration, frequent pulse, all relieved, a good appetite restored, and flesh in-

creasing daily. Towards the spring season, the pulmonary symptoms would commence to kindle up again, and by June or July it would become necessary to repeat the visit to the Red Sulphur, although the symptoms were much less aggravated, and the constitution much less enfeebled than during the previous season.

The water of the Red Sulphur seems to act by *soothing* irritation, lessening the frequency of the pulse, and by subduing the inflammation of the tissues in contact with the tubercles, and thereby rendering the tubercles harmless; and also by suspending that tendency of the system to generate or deposit tuberculous matter. It is not unusual in post-mortem examinations to discover tubercles in the lungs of subjects who had never exhibited any signs of pulmonary disease during their lifetime; and in visiting the slaughter-houses of butchers, we have been astonished to observe numerous tubercles in the liver and lungs of animals, particularly the hog, and the sheep, which were fat, and otherwise in a healthy condition.

"Dr. Carswell," says Dr. James Clark, "has

remarked it as an important fact, that the mucous and serous tissues in contact with the tuberculous matter, are often found in a healthy condition; while this continues, tubercles may remain an indefinite length of time in their original state, or the softer part of the tubercle may be absorbed, leaving the more solid calcareous portion on its site,—a termination which occurs more commonly, I believe, than is generally supposed."

Among this description of patients who had visited the Red Sulphur two seasons, was Mr. Jacob S. King, of Henry county, Va., who stated he was taken ill with influenza in February, 1835, followed by pulmonary symptoms of a serious character. "About the 7th of August following," says Mr. King, "I arrived at the Red Sulphur Spring, labouring under diarrhœa, with acute pain in both sides, so much so that I could not remain on either side for one minute at a time without great suffering. My pulse was from 120 to 130 in a minute, and my cough very troublesome. The second day after my arrival at the Red Sulphur, I was freely cupped and leeched on both sides, and at night took a pill composed

of morphine, ipecac, and blue mass. The third morning I took an emetic of ipecacuanha. My diet was simply one glass of milk, and a piece of stale light bread, three times a day for fourteen days, and drank the water freely during this period. I gained a pound of flesh daily, and my pulse was reduced to 76 in a minute; my cough, strength, and general feelings were very much improved; bowels entirely regular, and in good condition.

"I am now at the Red Sulphur, August, 1837, enjoying much better health than in 1835, my cough being very slight, although my health is not entirely restored."

The cases, generally, labouring under this stage of pulmonary disease, improved in their health, particularly if they remained long enough at the Spring, restricted themselves to proper diet, and took sufficient exercise; but there were a few among them who took little or no exercise, and gave unlimited indulgence to an inordinate appetite. In such cases I took no interest, and observed but little change in their appearance.

On examining the visiters labouring under pulmonary disease, I observed that all those

patients who drank the water so as to act freely on the bowels, for any length of time, did not improve in their health, because active purging is not proper for the lungs in this disease. The water must be drank in such quantities as to act freely on the kidneys. There seems to be an intimate association* between the lungs and the kidneys, and the kidneys seem to be the great emunctories by which the lungs are relieved in all pulmonary diseases. This idea has been repeatedly suggested to me, in my attendance on patients labouring under this disease; on inquiring into their condition, they frequently said, "I feel much better to-day; I have had a copious flow of urine, which has afforded me great relief." This view of the connexion between the lungs and the kidneys has been confirmed by witnessing the diuretic effects of the Red Sulphur water in pulmonary diseases. I have a friend who is a physician, and who has laboured more or less under pulmonary disease for twenty years. He informed me that

* This association seems to exist also between the heart and the kidneys, as manifested during the use of the water in several cases of diseases of the heart.

when his lungs were disturbed by irritation, he always resorted to "cooling diuretic medicines for relief."

There are but few persons labouring under the third or last stage of tuberculous diseases, who visited the Red Sulphur this season, and among those few there was scarcely a case that derived any advantage from the use of the water. When tuberculous disease arrives at this stage, and the constitution is broken down, it is not only *useless* but *cruel* to send the patient to the Red Sulphur. I am sorry to say, that several of my patients in this condition, by my advice, visited the Red Sulphur this season, and I witnessed the bad effects of the water in their cases, as well as in the cases of others of a similar character. They were labouring under that peculiar irritation, and perhaps ulceration of the bowels, so common in this stage of the disease. They were unable to drink but a small quantity of the water, and the consequence was, that the bowels were purged and griped, the secretion of the kidneys was not increased, and the patient grew worse daily.

The following case of rheumatism of the

heart was communicated by Wallace Allen, Esq., of Richmond, Va., dated Feb. 15th, 1838:

"For some years I was a martyr to rheumatic affections, and finding no permanent relief from the various remedies proposed either by my friends or attending physicians, I was induced, as a dernier resort, to visit the Hot Springs in the summer of 1831. After remaining there eighteen days, I found my health so far restored as to deem a longer stay unnecessary. From that period, my health, though not robust, suffered little apparent declension until 1835, when I began to experience a change of feeling, commencing with irregular and inordinate action of the heart: that organ being evidently enlarged, and its vessels, together with the arterial system, suffering great derangement, and producing violent palpitations. During the latter part of that year, and beginning of the next, my disease gained ground to an alarming extent. I became listless and inactive. My mental faculties seemed obscured in a cloud, and my physical energies so prostrated, that an entire suspension of my regular pursuits became

imperious. Under these circumstances, I consulted a medical gentleman of great eminence residing in Philadelphia, who, after minute investigation, pronounced my disease *rheumatism of the heart*, and prescribed, as the only means of cure, moderate exercise, meagre diet, and a trip to the *Hot Spring*. At this time, the symptoms were so severe as almost to threaten the extinction of life; intense throbbing of the temporal arteries, great debility, and depression of spirits, were the characteristic features of my complaint. In the month of July, 1837, I visited the Hot Spring, where I remained thirty days, and experienced considerable alleviation. I then determined on removing to the Red Sulphur, thinking to test by my own observation and experience the high renown of their medical properties, as famed for allaying arterial excitement. Accordingly, early in September, with some agreeable companions, (which formed a great inducement,) I wended my way to that beautiful valley, where health and pleasure seem to dwell as tutelar guardians of the lovely spot. There I determined to remain some days, that I might inhale the invigorating

freshness of the mountain air, and luxuriate in the delights of the mountain scenery. And well was I repaid, not only in the happy results of the experiment, as it regarded my health, but further, as it enabled me to cultivate some valuable acquaintances recently formed, among whom I am pleased to recognize a physician, who evinced no common interest and sympathy in my case. By his advice I remained three weeks, making free use of this health-restoring fluid, and receiving therefrom benefit transcending my most sanguine expectations. During my stay at this Spring, I found each painful and alarming symptom gradually subsiding, and the pulsations of the heart and greater arteries decreased from 96 to 72 vibrations in a minute, the throbbing of the head ceased to annoy me, and I have every reason to consider myself convalescent. The last week in September I returned home with renewed health and invigorated feelings, and am now daily growing better. My usual amount of strength has returned, and I am confirmed in the opinion, that the malady under which I had so long laboured, and all its consecutives, have been

totally eradicated by the free use of the Red Sulphur water.

"Here let me bear testimony to the polite kindness of the worthy proprietor of that celebrated watering-place, whose unceasing attentions to the wants and comforts of his guests call for high eulogium."

The Red Sulphur water may be used with the most decided benefit in obstinate cases of bowel complaints, gleet, leucorrhœa, catarrh of the bladder, and uterine derangement.

It is not unusual for persons while using this water to pass calculi from the bladder, some specimens of which are in my possession, about the size of common beans. I do not pretend to assert that the water has any specific action on the stone; but by its powerful diuretic effects, by allaying irritation, and probably by relaxing the urethra, the calculi are washed from the bladder as it were without pain. This fact is worthy the consideration of all persons labouring under affections of the kidneys or bladder.

The general instructions which have been given regarding the mode of using the Red Sulphur water, may not be considered suffi-

ciently condensed to meet the view of the general reader; I will, therefore, recapitulate the directions. Begin the use of the water with great caution. If the system should be too plethoric, or too much excited, the use of the water should be postponed until the excitement shall be reduced to a proper state. Commence by taking one glass of water at bed-time, and one before breakfast; after a few days, take two glasses at bed-time, and two before breakfast, one at 11 A. M., and one at 5 P. M. This quantity will generally operate freely on the bowels; if it should fail to produce this effect, a little common salt, magnesia, or cream of tartar, may be added. If it is desired to act on the kidneys, increase the quantity of water to three or four glasses between a light supper and bed-time, and the same quantity between daylight and breakfast time, two glasses at noon, and one or two glasses about 5 o'clock P. M., taking care to exercise freely after drinking. The most proper periods for using the water are at night before bed-time, and in the morning before breakfast time.

CHAPTER XVII.

Having now, we think, conclusively proved, not only that tubercular consumption is not *incurable*, but that the Red Sulphur water affords the best chances for cure or relief, we feel it incumbent upon us to make a few observations on the treatment of that disease.

We have always been of the opinion that *too much practice* has been the great error of the profession, in their attempt to counteract its progress. Gentlemen of the *Sangrado* family, yielding too readily to the specious theories of Broussais and others, seem to think that while there is an ounce of blood in the body, they must continue to cup, and leech, and phlebotomize their unfortunate patient, when, in fact, it is for want of blood, and from the defective quality of what he has, his life is ebbing away to its kindred earth, as the tide returns to the bosom of the ocean. We do not say that this is so in all cases; but we

maintain that the vast majority of cases of tubercular consumption are dependent on *constitutional debility*, and that, if you imprudently add to this condition by untimely depletion, you at once prostrate those vital powers which otherwise might have made some struggle against the enemy. Do we then deny the utility of depletion altogether? By no means. If there be a congested state of the blood-vessels, or any other indication absolutely demanding blood-letting, it should not be delayed. We are not arguing against a cautious and judicious depletion, but we protest against the practice of some physicians in sticking their lancet, upon all and every occasion, into their unfortunate patients.

The attention should first be directed to the cause of the patient's condition, and to the removal or modification of that cause. Nature having a horror of dissolution, struggles to maintain herself against the foe; a feather thrown into the balance for or against her, may decide her fate. Oh what a responsibility rests upon him who undertakes to correct her aberrations, and lead her back to the way she should go! It is not to be denied that

tuberculous or calculous deposits in the lungs produce inflammation, and that sometimes it is so serious as to demand depleting remedies; but here we should stop, else we throw open the gates that otherwise may have opposed *some* resistance, however feeble, to the assailant. It is agreed by all, that in the early stages of chronic consumption a change to country air is proper. Now it is evident, that if any location combines all the advantages of a good climate with an agent whose power in this disease has been well ascertained, it affords *all* the chances which a change of residence can offer.

In an early part of this work, we took occasion to give our own experience of the climate of the mountains of Virginia; and we here repeat, it cannot be surpassed from the 1st of June to the 15th November. In some cases of asthma it is unsuited, on account of its elevation; but, sheltered as it is from the north-easterly winds of our sea-board, it scarcely feels the equinoctial tempests, and the air is always pure, balmy, and invigorating.

We have already given our views of the species of diet which generally suits those who

use mineral waters. At this Spring, there can be no doubt that an act of imprudence in diet may be more detrimental than at any other. Itself a sedative, if, under its use, the invalid gorges himself with a stimulating diet, it is disturbed in its operations, and from being originally a sedative, may, by abuse, be converted into a stimulant. In the first stage, mild farinacious diet is that pointed out by nature; in the latter stages more nutriment, and sometimes even a stimulant, is admissible. The use of the Red Sulphur water, as we have recommended it, under the best circumstances of judicious management, suitable exercise, prudence in diet, and a residence during the winter in a mild climate, may, under Providence, restore many interesting persons to usefulness and their friends.

While some have been sceptical as to the value of the Red Sulphur water in tubercular consumption, others seem desirous to make the impression that it is good for *nothing else.*

Now we think we have already demonstrated, not only that it is valuable in consumption, but that, acting on the human system not as a *specific,* but on great general

principles, it is equally available in all cases of subacute inflammation and irritable condition of the system, whether produced by morbid function or organic lesion of some organ. That man, therefore, who acknowledges its value in diseases of the chest, and refuses his confidence in kindred diseases, can have but a faint idea of the nice physiological relations of the human body, of the pathological changes and complications induced by abnormal function, or of the influences exerted by remedial agents in restoring the balances that had more or less varied from the healthy standard. We shall conclude our notice of this water by taking a cursory view of the more important diseases to which it is applicable, and shall then leave its reputation to the great arbiter of all such questions—*public opinion.*

Laryngitis may be divided into acute and chronic. The former does not fall within the scope of our design in writing this work; but as we think we can make a useful suggestion in this formidable disease, we will be excused for occupying the attention of the reader for a short time.

Acute Laryngitis usually commences with

inflammation of the tonsils, and of the fauces generally, and is ushered in by chills and fevers; inflammation progresses rapidly, and unless relief is quickly obtained the patient lapses into the asthenic stage, and the painful scene soon closes. Now if the patient is seen whilst depletion is yet admissible, how may it be effected with the greatest chances of success? The mode of operation we shall suggest is so obviously the proper one, that it is matter of surprise it has not been in general use for centuries in this and other acute inflammations of the *fauces*, such as tonsilitis, &c. Yet except the few physicians we have informed of the operation, and shown how to perform it, we have known of no solitary instance in which it has been practised in this country. The operation we refer to is bleeding the *sublingual vein*. Not only in acute laryngitis, but more especially in putrid sore throat, have we seen instantaneous relief from this operation.

The operation is thus performed: Place the patient in a chair in a reclining posture, seize the tip of his tongue by the medium of a towel, strike the vein with a spring lancet, and the

operation is over. Now, on account of the muscular contractibility of the tongue, it will not *bleed*, unless we use warm water, which must therefore be sipped and spat out, and with it the blood will flow freely for any length of time you please. The temperature of the water had better be about 112°. If you desire to stop it, you have but to substitute cold water instead of warm. If one bleeding does not suffice, the opposite vein can be treated in like manner. Now it will strike every man of common sense at once, that this operation possesses vast advantage over that by leeches, cupping, or general blood-letting. It immediately relieves the congested vessels in contact with the inflamed part, and enables the salivary and other glands to perform their functions. It can be performed at all times, and in every place, and by every one who can recognize the vein. No time need be lost in town or country, for the moment the alarm arises it can be resorted to. In putrid sore throat, we will pledge our lives, that if performed early, and followed by an emetic and brisk purgative, and an antiseptic gargle, say 12 grains chlorate of soda to a half-

pint of water, the life of the patient will be secure.

The only difficulty in performing the operation is with *infants*. With children of four years old we have succeeded, as follows: We apply a powerful mustard plaster to the throat, and when it stings severely, we make a *bargain* with the child to take it off, provided he will put out his tongue and permit us to perform the operation—he promises, and we remove the plaster, with the understanding that if he breaks his promise we again put it on. We soothe the irritated surface by cooling applications, gain the child's confidence, and he thrusts out his little tongue without hesitation. In order to gargle in such a case, we use an ivory pipe terminating in a perforated bulb, fitted to a pint syringe, and placing the child on the knee of its nurse, with the head inclining forward, we inject the gargle, and completely cleanse the mouth and fauces of the child. And this we repeat according to the urgency of the case. We also repeat emetics of ipecac once in six hours, until the danger is over.

Sometimes, in chronic laryngitis, the acute

form supervenes, and then this operation is available. In inflammation of the tongue itself, of the tonsils or epiglottis, it may be used with advantage, and we would practise it also in the early stage of croup, for the very obvious purpose of restoring the normal secretion of the glands and mucous membrane.

Chronic laryngitis may range from simple inflammation to ulceration of the mucous membrane, cartilages, and vocal ligaments, and even to the destruction of these parts. It sometimes attends tubercular disease of the lungs, and sometimes the larynx itself is the original seat of deposition of tubercles. The prognosis is of course dependent on the mildness or intensity of the disease, and on the constitutional ability to resist its progress. The Red Sulphur water will be found a powerful auxiliary in this disease. We have witnessed many most interesting recoveries by the use of this water, in apparently very bad cases. It seems, from the following interesting extract from MM. Trosseau & Belloc, the distinguished authors of a prize essay on Laryngeal Phthisis, &c., before the Royal Academy of France, that the waters of Bonnes

and Cauterets, in the Pyrenees, are also celebrated for the cure of this disease.

"*Sulphur; Sulphurous Mineral Waters.*—Many physicians, chiefly those who have embraced the opinions of the new French school, consider as almost fabulous the cases of cure reported by Borden and many others, effected by the waters of Bonnes and Cauterets. But they who have studied the effects of the Pyrenean waters upon the spot, they who have often sent to them their patients evidently attacked with pulmonary tubercles, will acknowledge the admirable cures which have been annually effected by this powerful means. Therefore we should never neglect the use of Sulphurous Mineral Waters, whether natural or artificial, in the treatment of various forms of laryngeal phthisis. Although secondary, they may, unaided, effect a cure in the early stages of the disease. We select the following case from a host of others.

"Mr. D., captain of artillery, thirty-four years old, was born of tuberculous parents. His voice is rather grave, and not very strong, except in the high notes. He attended balls and soirées, and was much in the world for

three months, when he perceived that his voice was hoarse, and complete aphonia soon followed. There was no expectoration or pain in the larynx, and the general health continued excellent, only he was greatly fatigued by the severe efforts that were necessary to make himself understood. There was nothing to induce a suspicion of disease in his lungs, he had never had hæmoptysis, catarrh, or angina. He used as a gargle, one ounce of alum to a pound of water, for a fortnight, without amendment. Milk diet was then prescribed, with some advantage; to this was added one bottle of Bonnes waters per day. This soon effected an improvement, and a complete cure at the end of two months."

We see from the foregoing extract, that scepticism is not confined to the physicians of this country: it is, indeed, the natural result of medical research and experience, for no man can appreciate the difficulties of a science so well as he who has encountered them. But while, on the one hand, the physician should be *slow* to believe, on the other, he should not lapse into absolute incredulity. To him may be applied with propriety the

general maxim so elegantly expressed by the Latin poet :

Est modus in rebus ; sunt certi denique fines,
Quos ultra citraque nequit consistere rectum.

We have ourselves lived long enough to have observed that valuable hints may be gathered from the very haunts of ignorance. Utility is not only the mother of justice and equity, but also, and more especially, of invention. We doubt not many "*old women*" in the interior of our country have cured diseases by some simple infusion or decoction, that would have resisted all the science of Broussais. Had man continued to live in his original simplicity, the trade of the druggist would not be so profitable as it is at this time. We firmly believe that the Almighty has sent no disease to afflict his creatures, for the cure of which he has not appointed some remedy, subject, however, to that immutable law which has allotted to man a certain amount of vital power which he cannot exceed, but which he may be deprived of by some disturbing force from without, or by the misapplication of agents intended as remedial.

Bronchitis.—Acute bronchitis, (*Herbert*

Mayo,) inflammation (ordinarily following cold in the head) of the lining membrane of the trachea and bronchi, which become red and slightly thickened, sometimes softer than natural, attended with a sense of dryness or roughness behind the sternum, and extending into one or both lungs; cough at first dry, soon accompanied by a serous expectoration, which is saltish, and slightly glutinous, but not distinguishable from the saliva with which it is intermixed. As the disease advances, the expectoration becomes thicker and more yellow, and is mingled with particles of an opaque whitish colour; by degrees the whole becomes opaque, of a pale yellow or slightly greenish hue, viscid, inclosing air-bubbles, tasteless or somewhat saltish, and occasionally marked with dots or small specks of blood. When the sputæ are very large, they frequently leave after expectoration a dull pain about the root of the bronchi, indicating the place whence they have been detached. The cough occurs in fits, on waking, after a meal, and on lying down to rest.

Chronic Bronchitis.—The expectoration sometimes precisely similar to that of the lat-

ter stage of the acute, but most commonly less glutinous, more opaque, and nearly puriform. Occasionally it is of a dirty-grayish or greenish hue, from an admixture of the black pulmonary matter. It is usually inodorous; but sometimes becomes more or less fetid, and assumes the smell as well as the other physical qualities of the different kinds of pus. This disease frequently follows acute bronchitis, and is liable to persist, with remission, for years.

During the remission, the appetite and strength return; but the patient commonly loses a little flesh, and remains paler than usual. During repose there is no oppression on the chest, but exercise soon brings on dyspnœa. The complaint remits in the summer, and returns in the winter, frequently attended with fever. In some rare cases, hectic fever comes on, with rapid emaciation, and the disease terminates fatally, with all the usual symptoms of phthisis pulmonalis. In fact, the most perfect similarity exists between the two diseases as far as regards the expectoration, the emaciation, and all the other general symptoms.

Such are the characteristics of a disease which is becoming every year more prevalent in our variable climate, and which has assumed vast importance, not only on account of its frequency, but also on account of the evils which a continued impediment to respiration may cause, by producing congestion of the lungs and heart, and organic disease of the latter. This disease, when not the accompaniment of pulmonary phthisis, is usually manageable by proper treatment, and early removal to a mild climate. The waters of the Red Sulphur seldom fail to relieve it, by removing the irritated condition of the membrane, and restoring a healthy secretion, and by imparting tone to the constitution. When this disease is attended with suffocative secretions, producing periodically great distress of respiration, much benefit will be derived, according to our own experience, in occasional emetics of ipecac.

Having directed no supper to be taken, cause the patient to drink from half a pint to a pint of warm water, then give 15 to 20 grains of ipecac. At bed-time give a tumbler or two of Sulphur water. This treat-

ment, in many cases, may be repeated every 48 hours with advantage. We have found emetics used in this manner also valuable in many cases of tubercular disease of the lungs. Nothing prostrates the bodily powers more rapidly than the constant attempt to expectorate, and indeed the hectic fever and sweats are greatly aggravated by this cause.

Our advice to a person afflicted with bronchitis would be to visit the Red Sulphur about the 15th of June, and use the water until towards the close of the Indian Summer, (say 1st to 15th November,) and travelling thence southwards, on horseback if possible, spend the winter and spring in Cuba.

Most invalids from the northern States return too soon, and proceed directly home. Now this is wrong; they should land at the southern extremity of the Union, and advance homeward according to the natural progress of the season. It is evident that a sudden transition from the climate of Cuba to that of Massachusetts is imprudent, and if made before the summer fairly sets in, may be hazardous; whereas there would be little danger in arriving in New-Orleans in April, and thence

travelling northward, so as to find somewhat of the same temperature in one's progress.

Chronic Pleurisy and Pneumonia.—We designed to say something on these and other affections of the organs of respiration, but we find we have already exceeded our limits, and we do not know that it would be attended with any practical good. Suffice it to say, that the Red Sulphur water is a highly important agent in these diseases, and that, by improving the general health, it increases the power of the absorbents in removing the effusions.

CHAPTER XVIII.

Hypertrophy of the Heart.—The heart, (*H. Mayo,*) comprising the auricles, ought to have a size either equal to, or a little less, or but a little larger, than the fist of the subject.

A straight line drawn across the breast bone uniting the lower edges of the cartilages of the third ribs at their sternal insertions, passes before the valves of the pulmonary artery a little to the left of the *mesial line.* The valves of the aorta are situated directly behind the pulmonary veins. From this point the aorta and pulmonary artery ascend, the former inclining forwards and to the right, so as upon emerging from behind the pulmonary artery to come in contact with the sternum, and to the right of the mesial line, the latter, which is from the first in contact with the sternum, inclining more considerably to the left till it arrives at the margin of the interspace between the insertion of the second and third ribs.

A vertical line coinciding with the left margin of the sternum, has about one third of the heart, consisting of the basial portion of the right auricle, and the whole of the left, on its left. The left auricle is situated deep behind, and to the left of the heart at its upper part, opposite to the interval between the cartilages of the third and fourth ribs. The apex of the heart beats against the cartilage of the fifth rib, or against the interval between the fifth and sixth.

The heart rests on the tendinous centre of the diaphragm, which is stretched horizontally to form the floor of the chest, at or little below the level of the lowest part of the fifth rib. The lungs descend along the margin of the sternum, about two inches apart, and overlap the base of the heart slightly on the right side, and more extensively on the left; then receding from each other, they leave a considerable portion of the right ventricle, and a less extent of the lower part of the left, in immediate contact with the sternum and fourth and fifth costal cartilages.

From the above account of the structure and position of the heart, as well as from

our remarks on indigestion in a former chapter, it will be readily seen what a vast influence is exerted over that organ by the stomach and lungs, both by the quality of the blood, as produced by a healthy or vitiated chyle, or by a perfect or imperfect oxygenation dependent on the function of respiration.

And, moreover, we think the reader can be at no loss to comprehend the modus operandi of the Red Sulphur in restoring the functions of this organ to a normal condition. The most conclusive evidence of its power in disease of the heart, may be adduced in several cases, in which the action of the arteries and heart has been reduced in frequency from 30 to 40 pulsations in a minute. Is there any other agent known to science that will do this? We humbly conceive there is not; and therefore we venture to promise patients affected with functional disease of the heart, the best results from a judicious use of this water.

The Kidneys and Bladder.—We shall touch upon the diseases of these organs, from which relief may be expected at the Mineral Waters of Virginia. All the Sulphur waters

claim to be beneficial in gravel, and we think they are so in a greater or less degree.

That form of disease in which they are most useful is lithic-acid gravel. "*Sand* (*Civiale*) is understood to be a powdery deposit, which takes sometimes the form of a very fine powder, and sometimes, or more frequently, of grains, caused by the agglomeration of little crystals, which are easily distinguished with the *lens*, or that are sometimes perceptible to the naked eye. This deposit is most frequently of a bright red colour, though, in certain cases, it resembles that of brick-dust, or is gray, ash-coloured, black, or dusky."

"*Gravel* (says *Dr. Christison*) may be defined the discharge of pulverulent or gritty matter with the urine, occasioning symptoms of irritation in the kidneys and urethra."

The most frequent cause of gravel is indigestion, especially that species of it attended by acidity. When the fluid, overcharged with acid, is presented to the kidneys, it is secreted in excess; the lithate of ammonia is decomposed, and the acid precipitated. Another and very extensive cause of gravel is *hard water*. Of this fact we can speak experimentally.

When riding through the mountainous region west of the Alleghany, and using the water in most districts of that region, we never have escaped with impunity, and we have uniformly suffered from using the strong limestone water of a village in our country. It is on this account that in this form of the disease, (lithic-acid gravel,) we should be doubtful whether the water of the Sweet Springs may be used with safety, abounding as it does with calcareous matter. The White Sulphur, Blue Sulphur, and Salt Sulphur, would be more likely to suit the invalid, more especially the last, as it is certainly more anti-acid than the others; but they have all to contend with the *hard*, *harsh* quality imparted by the sulphate of lime, and therefore, if there should be an irritated condition of the kidneys, which is almost certain to be the case in a greater or less degree, the use of the Red Sulphur alternately with the Spout bath at the Hot Springs will be found the most efficient treatment. We have already intimated that a little bicarbonate of soda may be used with advantage, in connexion with the Sulphur waters. Candour requires us, however, to confess, that

relief from this complaint must necessarily be temporary, from any remedy but a strict regimen, and abstinence from whatever may have produced the predisposition. Irritation of the bladder, when produced only by functional disturbance, or an excitable nervous tempera ment, will be relieved by the waters of the Red Sulphur.

Uterus.—In a work which is intended for the eye of the general reader, it will only be necessary to touch lightly on the diseases of this organ. Those which may be considered under the remedial power of mineral waters are *Amenorrhœa*, or obstructed menstruation, *Dysmenorrhœa*, or painful menstruation, and *Menorrhagia*, or excessive menstruation.

Amenorrhœa is of two kinds; one dependent on constitutional debility, and the other attended by the appearance of good health.

In the former, according to Drs. Ferguson and Simpson, the symptoms are languid circulation, muscular debility, torpor, or inequalities of the nervous function, defective nutrition. When allowed to proceed uninterruptedly, amenorrhœa terminates in *chlorosis*. In this condition of the system, that mineral

water will be the most useful which will arouse its torpid energies. Presupposing there is no organic lesion, such as a tuberculous condition of the lungs, the bath at the Sweet Springs will be found the greatest remedy in this disease; but if it be complicated with diseased lungs or bronchi, then the invalid's hope is the Red Sulphur. In the form accompanied by plethora, Dr. Goode's Spout-bath, under *his advice*, is the appropriate remedy.

Dysmenorrhœa.—In this form of disease, we recommend Dr. Goode's Spout-bath, as the best remedy known to us. In all cases, this remedy must be used under advice. The Red Sulphur, as a *sedative*, may with great advantage be alternated with the Hot Springs.

Menorrhagia.—It is clear that no agent that excites the system is admissible in this disease. Females labouring under this form of uterine affection, will therefore find the Red Sulphur alone appropriate, connected with a mild unexciting regimen. We venture to say, that if the distinctions we have pointed out be observed, most of the cases of diseased uterine function attending the Virginia Springs will obtain relief, and that many a charming

woman, whose hopes of fruitfulness have been blighted, will present her *lord*, not her *master*, with a new and improved edition of him or herself. We have seen some striking instances of this kind at the Red Sulphur within a few years.

Diseases of the Liver.—This important organ is the seat of numerous deviations from a healthy condition, and seems especially to suffer from high atmospheric temperature. Accordingly we find that in the southern latitudes, and in locations subject to noxious exhalations, that class of diseases usually denominated *bilious*, is most frequent. The forms of disease of this organ, with which we have to do, are its functional aberrations, and chronic *hepatitis*.

The secretions of bile may be redundant or defective, or they may be acrid, or deficient in stimulative properties. These conditions are dependent, in all probability, on the quantity and quality of the blood presented for secretion, and that is affected by the digestion and chylification, and finally by the poisonous effluvia of a corrupted atmosphere.

In no disease may more be expected from

change of climate and habits of life than in diseased functions of the liver, and in no region of the United States is there a summer climate more favourable than the transmontane division of Virginia. Independent, then, of all mineral waters, much may be expected from visiting this region; but when the agency of the greatest variety of Mineral Springs in the world may be obtained in connexion with climate, our southern friends have inducements to visit us, which are not presented by any other region of the Union.

Now, to say that any one of the Sulphur Springs is a specific, in all varieties of functional diseases of the liver, is to display great ignorance of the action of those agents. We would desire to impress upon the reader that it is not a purgative effect that is desirable in those cases. If it were, those waters that act most freely on the bowels would be the most prompt to relieve this disease, and Saratoga water would claim preference over all other waters in the United States, in those conditions of the system; but such is not the case. We want an agent that will, in the first place, modify the original causes of the hepatic affec-

tion, and produce thereon an alterative effect; and this agent, we have already demonstrated, is *sulphuretted hydrogen, combined with warm bathing*. We agree with Dr. Goode, that there are cases of hepatic functional disease that may be, and are relieved by the Hot Springs alone; but we are also certain that the surest plan is to visit first a Sulphur water, using at the same time the artificial bath, and to spend the latter portion of the season at the Hot Springs, or, which in our view is better, to alternate these remedies through the season.

We repeat here, what we have already intimated in treating of the White Sulphur, that minute portions of blue mass should be used in connexion with the Sulphur waters and warm bathing in hepatic diseases. It may be used with great safety, as the sulphuretted hydrogen prevents any permanent constitutional effect, and it will be found a most valuable auxiliary.

From what we have said on this subject, it will be seen that we claim for *all* the Sulphur waters decided power over functional disease of the liver. It is difficult to say which is entitled to a preference. Idiosyncracy has some-

thing to do with it; but there is evidently no important difference in their action on this organ. In setting forth the claim of the Red Sulphur for equality with the others, we only do that which experience justifies, and in the second form, at the head of this article, (Chronic Hepatitis,) it is the only water which will fulfil the indications required.

We will notice in this place *Chronic Diarrhœa*, connected with functional disease of the liver, which will close our remarks on the internal organs. This disease is extensive in our country, on account of the variability of the climate, which acts unfavourably on a system previously disposed to it. The most common forms of diarrhœa are bilious diarrhœa and mucous diarrhœa. The former is more generally, in warm climates, consequent on hepatic disease; the latter may either be symptomatic of inflammation of the intestines, or may be idiopathic, arising from congestion or irritation of the mucous membrane. When this affection becomes chronic, it is frequently difficult to manage, and requires great care and judgment. Drastic remedies of every kind do mischief, and we should find a mild altera-

tive, which, combining with change of air, free exercise, prudent diet, and the warm bath, give the greatest chance of relieving the disease. There can be no doubt of the value of the warm bath in this disease, as proven in our article on the Hot Springs.

We have never seen a case that was not relieved at the Red Sulphur. The White succeeds in some cases, when it is produced by congestion of the membrane; but in many cases it is of too stimulating a nature. Alternating the Red Sulphur and Hot Springs will be the surest plan. There are cases of this disease in which the Sweet Spring bath also acts with very decided and admirable effects.

The account already given of these Springs has been so minute that little remains now to be said as to their remedial properties. After the book appeared, it was alleged, by one individual at least, that we had written what he termed an elaborate puff of a water, in the success of which we were interested. In our remarks on Dr. M. we have proved that we had no interest such as was ascribed to us. We confess we did take more than ordinary pains to inform ourselves of all that could elu-

cidate the virtues of the Red Sulphur, and now that no human being can suppose we have any interest, immediate or incidental, in its success, we re-affirm all we have said, and declare that not only is our faith undiminished; but that every year, since 1829, when we first visited it, our confidence has, if possible, been more firmly rooted. Whatever, therefore, has been given to the public by us, was conscientiously believed by ourself, and if we have in aught deceived them, we also are deceived. The analysis has undergone the correction of its author, and we beg leave to call the attention of the reader to this portion of the work. It will convince any candid man that the composition of this water is essentially different from all the others, and we think it establishes beyond doubt the possession of curative powers previously ascertained by experience.

The estate on which these Springs are situated, consisting of about 1350 acres, was sold in 1843, under a Deed in Trust, to Andrew Beirne and James A. Dunlap, and by them purchased at less than one fourth its cost to the former proprietor. Both of the purchasers are since deceased, and the property is now

held by their heirs. We visited the place last season. It was kept as well as might be expected under the circumstances, and seemed to receive its proportion of patronage. The houses and grounds have been kept in pretty good repair, but yet it did not look as spruce, and trim, and gay, as of yore. This, however, may have been imagination. Painting and whitewashing contrast so beautifully with the green sward and trees, we could have wished they had received more attention. The Temple over the Springs remains in an unfinished state, and we fear will so remain. The beautiful Summer-house on Mount Ida is a ruin. Nought remains but some eglantines which we planted with our own hands in bygone days. Oh! how sweet was their fragrance, with the dew-drops resting upon them! What a train of thoughts rushed upon our mind as we stood upon that mound and contemplated the peaceful and lovely villa beneath! How strange are the incidents crowded into a few years! It appears as yesterday, when we entered, at early candle-light, a gloomy gorge skirted by dense forests and torn by contending torrents. A few comfortless

cabins studded the little glen. No light was to be seen, for those cabins had no windows. A solitary light gleamed under the rude shelter that covered the Springs. All around seemed desolate and cheerless. Nor did the morn bring on its wings a brighter prospect: it only served to make darkness visible. The sun shone brilliantly, but it shone not upon the inhabitants of that valley. When it nearly reached its meridian, then only did it vouchsafe its rays, and before the afternoon meal was ended, it again disappeared behind the Western forests. Three or four years passed away, and a visiter who had seen it in its period of gloom, again entered that valley, and he said: Where am I? No, no, it is not possible! This is not the place I once knew. Behold those ranges of beautiful building, and the white railings, and the green-sward, and the smooth walks, and the noble trees, and the playful fawns and timid deer, and civilization, and beauty, and elegance. Again behold! and he who planned and perfected the lovely scene, is gone to toil for his daily bread, and his rich neighbour enjoys his life's labours—and the rich man *dies*—and the poor man returns—and he

plucks the sweet eglantine, and he enjoys its fragrance—and he is filled with gratitude to that great Being who has suffered him to come hither again, and look on that peaceful vale —and quaff the limpid fountain—and recall visions of the past.

The kind reader will pardon the apostrophe produced by feelings we could not control. And now, to return to things tangible: we shall simply remark, that the idle stories which he will hear that this water has been injured by the writer, by blowing the rock with gunpowder, is a base fabrication, and that there is no depreciation, as a glance at the analysis will show; but that it is pure and unadulterated as the virgin snow on the summit of the Andes. We, who *know*, assert this; and we are, surely, as worthy of credit as the miserable retailers of such wicked falsehoods.

Some distance up the branch is a little spring which we discovered in 1840, and which is now called Hicks' Spring—a gentleman by the name of Hicks from Mecklenburg having ascribed his cure from chronic diarrhœa to its use. The general character of the water is the same as that of the

great Spring; but it is weaker, and the temperature higher, by several degrees. It has this advantage, that it requires exercise in going and returning; but we would not recommend to invalids to rely *exclusively* upon it. The stream is exceedingly feeble. The road between the Red and Blue Sulphur is now, or certainly will be completed before the next season. It is one of the best and most beautiful roads in the mountains, crossing the Greenbrier River at a very interesting spot. It will be a drive of five or six hours, permitting the traveller to breakfast at one Spring and dine at the other. In the whole round of the Western Springs, there now remain nine miles to be turnpiked, and these are the first nine miles from the *Salt* to the *Red*. The proprietors of both should unite and complete this link.

CHAPTER XIX.

SALT SULPHUR SPRINGS.

We should have taken great pleasure in presenting our views on the Mineral Waters of the Salt Sulphur, but we deem that it would be presumptive in us to treat of a subject that has been pre-occupied by a very distinguished physician and surgeon of Philadelphia, Dr. Thomas D. Mutter. We feel that it is more consistent with a due sense of that gentleman's superiority, as we are sure it will be more agreeable to the proprietors, and profitable to the public, that we should substitute his observations for our own, and therefore subjoin so much of his pamphlet as has immediate reference to this watering-place.

We would do violence to our own feelings, however, were we to pass over unnoticed the claims of the amiable proprietors, Messrs. Erskine and Caruthers, upon the public, for the sumptuous provision they make for the accommodation and comfort of their guests, and the uniform kindness that marks all their in-

tercourse with them. Mr. Erskine attends in person to the location of visiters, and gives universal satisfaction. He is always kind, always amiable, always agreeable, never obtrusive. All the arrangements of this establishment deserve commendation, and we sincerely hope its success will realize the just expectation of those worthy gentlemen.

"The *Salt Sulphur Springs*,* three in number, are situated in the county of Monroe, in $37\frac{1}{2}^{\circ}$ north latitude, and 5° longitude west of Philadelphia, and at an elevation of about 1400 feet above tide-water. All the Springs are situated on 'Indian Creek,' a small limestone stream which rises in a valley a few hundred yards above the Old or Sweet Spring, and pursuing its 'devious way' for about 23 miles in a south-west direction, finally empties into New River, in Monroe county. It derives its name from the circumstance of the Indians, who in former times were in the habit of entering the valley of Virginia from Kentucky and Ohio, almost invariably making it their '*camping stream*.' Their graves, along with other traces of their frequent resort to this par-

* The Salt Sulphur Springs, Monroe county, Va. Thomas D. Mutter, M.D.

ticular spot, are occasionally met with at the present day.

"The Salt Sulphur is hemmed in on every side by mountains. To the south and east, in full view, and about ten miles distant, is Peter's Mountain; due north, and about fourteen miles distant, is a low spur of the Alleghany; and west it is bounded by Swope's Mountain, at or near the base of which are the two principal Springs.

"It appears from the statement of some of the 'oldest inhabitants,' that the *Old* or *Sweet* Spring was discovered in 1802 or 1803, by Alexander Hutchison, Esq., who was engaged in boring for salt along Indian Creek. For several years it enjoyed much celebrity, and was annually the resort of a large company. The house occupied as the hotel, and several of the old cabins, are still standing. The opening of the *Salt Sulphur Spring*, the medical properties of which are so much more strongly marked, and the erection of commodious buildings near it, soon destroyed the fame of the *Sweet*, the water of which is at the present time used almost exclusively for the baths, although there are some individuals who still prefer it to that of either the Salt or

New Spring. To gratify such, and at the same time to test the value of the water, the enterprising proprietors, in the summer of 1839, caused the Spring to be deepened and thoroughly repaired. At present, it is enclosed in a white marble reservoir, two feet square by two feet four inches in depth, over which is erected a neat wooden edifice, of an order '*sui generis*.' In taste, smell, colour, and constituents, it strongly resembles the *Salt Spring*, but it is much more feeble as a remedial agent, which is to be attributed to its containing a smaller quantity of the active principles common to both.

"The second Spring, or the Salt Sulphur proper, was discovered in 1805, by Erwin Benson, Esq. He was induced to believe that either sulphur water or salt might be found in considerable quantities at the spot now occupied by the Spring, from the fact of its being the favourite 'Lick' of immense herds of buffalo and deer. Under this impression he began boring, and had penetrated but a short distance below the surface, when he struck the vein of Sulphur water now constituting the Spring. Like the Old, this Spring is enclosed in a marble reservoir, two feet square, and about two

feet ten inches deep, but from the boldness of its sources, it is probable that this Spring will be enlarged. It is protected from the influence of the weather by a neat and appropriate edifice, furnished with seats. The water possesses all the sensible properties of the Sulphur waters in general. Its odor, for instance, is very like that of a 'tolerable egg,' and may, in certain states of the atmosphere, be perceived at some distance from the Spring; and in taste it is cousin-german to a strong solution of Epsom salts and magnesia. In a short time, however, strange to say, these disagreeable properties are either not observed, or become on the other hand attractive; indeed, there is hardly an instance of an individual's retaining his original repugnance to them longer than three or four days, and some there are who become so excessively fond of the water, as to give it the preference over any other liquid. Like most of the Sulphurous, this water is perfectly transparent, and deposits a whitish sediment, composed of its various saline ingredients, mingled with sulphur. It is also for the most part placid; occasionally, however, it is disturbed by a bubble of gas, which steals slowly to the surface, where it either explodes with

a timid and dimpling smack, or is eagerly caught up by some care-worn and almost world-weary invalid, as a gem from the treasury of Hygeia!

"The following analysis of this Spring is furnished by Professor Rogers, of the University of Virginia:

"'*Solid ingredients.*—Sulphate of lime; sulphate of magnesia; sulphate of soda; carbonate of lime; carbonate of magnesia; chloride of sodium; chloride of magnesium; chloride of calcium; iodine, probably combined with sodium; sulpho-hydrate of sodium and magnesium; sulphur, mingled with a peculiar organic matter; peroxide of iron, derived from proto-sulphate.

"'*Gaseous ingredients.*—Sulphuretted hydrogen; nitrogen; oxygen; carbonic acid.

"'The bubbles of gas that are seen adhering to the sides of the Spring, are composed almost entirely of nitrogen.'

"The precise proportions of the solid ingredients will shortly appear in the 'Report on the Geology of Virginia,' which Professor Rogers is at the present moment preparing for the press, and for the appearance of which the medical profession has been for some time

anxiously waiting. The temperature of this water is 50° Fahr.

"The third, or *New Spring*, was discovered in 1838 by the proprietors, while engaged in cutting a drain for the water of the 'Salt,' and was immediately deepened, and furnished with a marble reservoir, similar to those of the other Springs, over which a frame building has been erected. Its water is not as limpid as that of the other Springs, in consequence of the excessive deposit of sulphur, in combination with some organic element which floats as a pellicle on the surface of the Spring. Frequently when the heat of the sun is intense, a beautiful pink deposit, resembling in appearance that met with in the 'Red Sulphur,' is discovered upon the sides and bottom of the reservoir. In taste and smell, it resembles very much the water of the other Springs, but, from being *ten degrees warmer*, is to some persons less palatable. It contains but a small portion of free gas, and hence presents a sluggish, and when covered by the pellicle alluded to, rather a disagreeable aspect. In chemical composition it resembles the Salt, as the following extract from a letter of Professor Rogers will show: 'I enclose you a list of the ingredients

in the Salt Sulphur water, which applies to the *New* as well as the *Old* Spring, the former having rather a smaller amount of saline matter in general, though in some ingredients surpassing the other. It has been very minutely analyzed, and is the first of all the waters in which I was able to detect traces of *iodine*, which it contains in larger amount than the Old Spring, and indeed most of the other waters in which I have been so fortunate as to discover this material.' Its temperature ranges from 62° to 68° Fahr.

"Comparing the water of the *Salt Sulphur* with the Sulphur waters of Europe, we shall find that it corresponds most nearly with those of Harrowgate and Dinsdale Springs in England. In this country there are several Springs, the waters of which resemble it in many respects. The *White Sulphur*, (Greenbrier county, Va.,) the *Big Bone*, (Ky.,) and the *Olympian*, (Ky.,) are of this class.

"The *New Spring*, although it resembles in most respects the *Salt*, contains, according to the analysis of Professor Rogers, a much larger proportion of iodine. The presence of this ingredient will render this water, in all

probability, highly useful in many cases in which the other would prove either a feeble agent, or produce no effect whatever; scrofula, some diseases of the skin, goitre, and the affections for which iodine is generally given, are among them. Having had but little experience in the use of this Spring, from the fact that it had but recently been opened when I visited the place, I will not hazard a positive opinion relative to its therapeutic virtues. I have little doubt, however, that it will speedily become a favourite, as well as eminently useful water.

"The *Old* Spring contains most of the ingredients of the other two, but in *smaller quantity*, and hence may be useful in cases in which the latter operates too powerfully. My experience with this water being also limited, I must forbear, until a future occasion, saying much about its powers as a remedial agent.

"In the exhibition of these waters, the rules laid down as applicable to the administration of all others may be adhered to. When it becomes necessary to change the water, or alternate it with another, I would recommend, from its great similarity, that of the *White Sulphur*."

The analysis of this water made by Professor Rogers, proves that it contains a large amount of saline ingredients, which impart to it greater purgative power than is possessed by any of the Sulphur Springs, and also render it in some degree more stimulant than the White Sulphur. The diseases to which it is applicable have been so minutely detailed by Dr. Mütter that we can add very little of interest. It appears from the letter accompanying the analysis that Professor Rogers declares he has met with *a much larger quantity of Iodine in the lower spring, than in any water in which it has been his good fortune to find this substance.* (We quote from memory, not having the analysis by us.) In the analysis he gives: Iodine—a *trace!* We confess we cannot understand how a *trace* can be much greater than the *quantity* he has been so fortunate as to find in other waters. It may be owing to our obtuseness in not being able to distinguish between a *large trace* and a *small trace;* but we have always considered the difference to be about the same as between the big end of nothing, and the little end of *nothing-at-all.* Taking it for granted, however,

that a *trace* is not next to nothing; it may be interesting to call the attention of the reader to the opinion of another great chemist, with regard to the presence of this salt in water. We sent Mr. Hayes, for correction, the sheets containing his Analysis of the Red Sulphur, and he has just returned them with some additional remarks, among which we find the following: "Waters containing minute portions of the salt called Hydriodate of Potash, may be used as an ordinary beverage without any marked action. But diseased organs and impaired vital action allow of marked effects being produced by such waters." This is an important opinion, and bearing very favourably upon the Salt Sulphur; if it, indeed, contains this salt in any appreciable quantity. Be this as it may, however, experience and analysis both prove that the Salt Sulphur is a very valuable water, and there can be little doubt that as its properties become better understood and it is judiciously prescribed, it will do much good. All those valuable springs have been improperly used in many instances, and the consequence has been disappointment and failure. But the reign of empiricism, in this respect, is

drawing to a close; and selfishness and imposture will fall into merited neglect and contempt. If we shall, in any degree, have contributed to such a result, we shall think we have not lived altogether in vain.

It will be gratifying to the friends of the Salt Sulphur to learn, that it received, during last season, a large proportion of custom, and did a more profitable business than it has done for years. It richly deserves patronage; for besides the value of the water, which is beyond cavil, visiters are treated with uniform kindness and civility, and sumptuously feasted, upon all the luxuries of an abundant market, an unrivalled dairy, and a well-cultivated garden. Here are not doled out short, thick morsels of meat; but fine slices of juicy beef or mutton, or tender venison, and with as good a will as Joseph helped Benjamin. If, then, our readers wish to be treated as princes, let them hie to the Salt Sulphur.

CHAPTER XX.

DISEASES TO WHICH THE SALT SULPHUR IS APPLICABLE.*

The Salt Sulphur, like almost all the Sulphurous waters, being a stimulant, should consequently not be employed in acute or highly inflammatory affections; nor in those in which there exists much active determination of blood to the head, or at least not until this determination has been guarded against by previous *diet*, *purgation*, and if necessary, *blood-letting*. But in all *chronic* affections of the *brain*, *nervous system*, some diseases of the *lungs*, *stomach*, *bowels*, *liver*, *spleen*, *kidneys*, and *bladder*, it is one of the most valuable of our remedial agents. In diseases of the joints (gout and rheumatism) and skin; in *mercurial sequelæ;* in hemorrhoidal affections; and in chronic diseases of the *womb*, it is also a remedy of immense importance.

1. *Of Chronic Disease of the Brain!*—In no class of diseases, probably, is there re-

* Dr. Thomas D. Mutter.

quired more caution in the exhibition of a mineral water, and especially of one which, under ordinary circumstances, excites the system at large. Many persons on this account have prohibited its use; but experience, the only sure guide, has shown that many a case of chronic headache, incipient mania, and local palsy, dependent upon congestion or chronic inflammation of the brain, will yield to the steady use of a cathartic mineral water, when almost every other agent has failed. For such cases the Salt Sulphur seems peculiarly adapted; but it must be used with caution, and assisted, if necessary, by local depletion, counter-irritation, and diet.

2. *Neuralgia.*—It is well known to the profession, that neuralgic affections are often dependent upon a deranged condition of the chylopoietic viscera. The habitually costive, or those who have suffered from repeated attacks of miasmatic diseases, and the dyspeptic, are generally most liable to attacks of neuralgia. In such cases, I have known the Salt Sulphur prove highly beneficial.

3. *Nervous Diseases.*—The various affections termed nervous, such as hypochondria, hysteria, catalepsy, chorea, &c., are also fre-

quently dependent upon disorder of the digestive apparatus, and resist all our remedies for months or years. In such cases a trip to a Mineral Spring is generally recommended, not so much for the waters, probably, as for the change of air, scene, mode of life, &c., which it entails. Making all due allowances for the beneficial action of the last-named agents, I am confident that the steady cathartic action of the water is of infinite benefit. Two cases of chorea, and one of hysteria, I saw completely relieved in the course of six weeks, by the use of the Salt Sulphur water.

4. *Chronic Diseases of Chest.*—Diseases of the thoracic viscera are unfortunately too common in our country, and hence we find crowds of their unfortunate victims at nearly every watering-place, seeking, and too often but vainly, some relief from their distressing condition. In some cases, those, for example, in which the irritation is dependent upon the retrocession of some habitual discharge, and those, too, in which the skin is *dry* and *cool*, and the indication is to produce a revulsion to the surface by directing the fluids from the centre to the circumference, which will also

facilitate expectoration, the cautious administration of the Salt Sulphur water will be useful. In those cases, also, in which the cough is sympathetic or dependent upon some lesion of the chylopoietic viscera, it may be employed. But in every instance where it can be traced to an organic affection of the *heart* or *large blood vessels*, and if there be fever, emaciation, tubercles with cavities in the lung, hæmoptysis, or diarrhœa, the death of the patient will be hastened by the employment of a stimulant so active as the Salt Sulphur. For pulmonary cases,* the Salt Sulphur offers the advantage of an agreeable temperature, and a *dryness* of atmosphere not possessed by the other Springs in the mountains of Virginia. During the season, which continues from the 1st of June to the middle of September, the thermometer ranges from 70° to 85° Fahrenheit, and there is little or no fog in the morning.

5. *Disease of the Heart.*—The following certificate is published by Mr. H. McF., of

* There appears to be some inconsistency here with the foregoing paragraph, unless the Doctor means that the patient shall abstain from the use of the water; the alleged superiority of climate is altogether imaginary.

Williamsburg district, South Carolina. I cannot suppose, however, that the affection of the heart was *organic;* it must have been one of those cases of *functional disturbance* dependent upon disorder of the digestive apparatus:

"September 4th, 1838.

"Mr. Erskine:—Having been a sufferer for more than three years, from organic disease of the heart, connected with bronchitis, pronounced so by eminent physicians of S. Carolina, I had the good fortune to visit your Spring, and using the water freely for nearly two weeks, with a decidedly good effect upon my obstinate disease, I feel it a duty I owe to the public, and to other sufferers like myself, to say, that I find it to possess none of the irritating quality that some persons suppose. So highly have I been pleased with the medicinal qualities of the water of your Spring, that I beg you will send me a barrel of it containing 30 or 35 gallons. H. McF."

6. *Chronic Diseases of the Abdominal Viscera.*—In making an estimate of the cases of disease one meets with at a watering-place, it will not, I think, be going too far to say, that two-thirds at least are referable to some affection of the abdominal viscera. Hepatitis, jaundice, splenitis, gastritis, gastralgia, pyrosis, dyspepsia, enteritis, diarrhœa, &c., are encountered at every turn.

In *hepatic affections*, or those commonly called *bilious*, the Salt Sulphur water is, without doubt, one of the most powerful and effi-

cient remedies we possess. When taken in a proper manner, its sanative influence is speedily manifested by a change in the biliary secretion. Constipation, the usual attendant upon such cases, is relieved, the sallowness of the skin disappears, and in the course of a few weeks a complete and radical cure is often accomplished.

Chronic Splenitis.—One of the most common, and at the same time one of the most obstinate, of the sequelæ of the fevers of the south, I have known frequently relieved by the use of this water, as well as by that of the White Sulphur.

Chronic Gastric Irritation, it is well known, is often relieved by the administration of an agent calculated to set up a new action in the mucous coat, and those cases of dyspepsia which depend upon such a condition of the stomach, are often relieved by the use of a Sulphur water. A number of such are annually met with at the Salt Sulphur, many of which leave the Spring perfectly cured.

Gastralgia, or *Nervous Dyspepsia*, is also occasionally met with, and may depend upon a variety of causes. When it is purely a functional disease, unaccompanied by organic

lesion, a Sulphur water, along with Sulphur baths, will sometimes produce a very happy effect.

Pyrosis, or *Water-brash*, is another disease in which the Salt Sulphur proves pre-eminently useful. I have known cases in which a pint or more of a secretion so acid as to set the teeth on edge, was daily thrown up, radically cured by the use of this water in the course of six or eight weeks. (Mr. F., of Princeton, is an example of this.)

When dyspepsia is known to be dependent upon scirrhus or cancer of the stomach, I would strenuously advise the patient to abstain from the use of the Salt Sulphur, and indeed from that of any mineral water. Mrs. C—, of North Carolina, was, I am convinced, destroyed by it.

Chronic Irritation of the Bowels, giving rise to chronic diarrhœa, or dysentery, upon the principle of a new action being set up, are frequently cured by the use of the Salt Sulphur. I wish this statement to be borne in mind, for it is usual to decry the use of a Sulphur water in such cases; but the experience of those who have paid attention to the subject, will bear me out in the assertion. Mr. T., of Philadelphia, who for three years laboured

under chronic diarrhœa, and who was supposed to have ulceration of the mucous membrane of the bowels, was radically cured by a few weeks' use of the water.

Constipation.—Habitual costiveness is another affection for which the Salt Sulphur water is an excellent remedy.

Hemorrhoids.—The use of laxatives in piles is a treatment so long in use that nothing need be said in its favour but that Sulphur water operates much more beneficially than any other agent, inasmuch as in nearly every case of chronic piles we find the liver more or less affected. This fact, first observed by Armstrong, is so universally admitted, that I shall not stop to say anything towards its further substantiation.

7. *Chronic Diseases of the Urinary Organs.*—From the fact that nearly all mineral waters, either from the quantity usually taken, or from some peculiarity of their ingredients, prove diuretic, they have always been favourite remedies in diseases of the urinary organs. Those which contain an excess of alkaline ingredients, have without doubt proved remarkably serviceable in cases of *acid* calcu-

lous diathesis, but it must be confessed that as a general rule, and always where the stone is large, they prove but a doubtful remedy. In the incipient stages of calculous disease, however, and those especially in which the formation of stone is dependent upon some disease of the digestive apparatus, the Sulphur waters are often useful. Many such cases have been benefitted at the Salt Sulphur. When this water fails to accomplish the desired object, I have seen that of the *Sweet Springs* productive of much good.

Although this water may be considered as a somewhat doubtful remedy in calculous disease of any duration, it must be allowed to possess astonishing sanative properties in chronic irritation of the *mucous membrane of the kidneys, bladder, prostate gland,* and *urethra.* Many cases of chronic nephritis, vesical catarrh, prostatic irritation and gleet, are annually cured by its employment.

8. *Chronic Diseases of the Genitals.*—Like all Sulphur waters, those of the Salt Sulphur are often very useful in obstinate cases of general or local debility, the result of previous excessive indulgence. They are also

remarkably beneficial in *atonic leucorrhœa*, *amenorrhœa*, and *dysmenorrhœa ;* but when either of these complaints is dependent upon *local* or *general* plethora, the use of the water must be preceded by depletion, either *local* or *general*, according to circumstances.

9. *Chronic Rheumatism and Gout.*—The diseases most frequently met with after those of the digestive organs, at our different watering-places, are rheumatism and gout. In all such the alterative influence of a Sulphur water is invariably, I believe, more or less useful ; but to receive full benefit from its use, the *warm* or *hot mineral bath* should be resorted to, and the *diet*, *clothing*, and *exercise*, properly regulated. With many others, I cheerfully acknowledge the immense benefit derived from the use of the Salt Sulphur.

10. *Mercurial Rheumatism*, *Periostitis*, and *Inflammation of the Bones*, are also very much relieved (in most cases) by the use of the Salt Sulphur. Along with the water, it will be well to use the *Hot Baths.*

11. *Chronic Diseases of the Skin.*—When judiciously administered, no remedy is productive of more permanent benefit in all cuta-

neous affections, than the Sulphur waters, but unfortunately they are but too often abused. They are only suitable when the eruptions are of long duration, and unaccompanied by inflammation. Used in the acute stages, they aggravate the symptoms. It is always proper, moreover, to employ the warm or hot baths during the use of the water. The Salt Sulphur is often eminently successful in relieving cases of this kind.

I have thus briefly sketched the principal affections to which the water of the Salt Sulphur is applicable, and to show that my assertions are borne out by facts, I insert the certificates of several persons, who, with myself, were very much benefitted by its use:

Salt Sulphur Springs, July 29th, 1835.

To Messrs. Erskine and Caruthers:

Gentlemen,—The undersigned, visiters at the Salt Sulphur Springs, prompted by a sense of grateful respect for your kind and unwearied attentions to ourselves and families, beg leave to convey to you our assurance of entire satisfaction with the arrangements of your establishment. Such have been the cordial hospitalities and ample and varied accommodations of your house, that we shall ever look back to our temporary residence with you with pleasure and delight.

Experience, which is the best analysis your Spring can have, justifies us in recommending it as an invaluable anti-

dyspeptic water, relieving the liver, bowels, and vascular system, and acting very kindly upon the secretions generally.

If order, abundant and well prepared fare, excellent bedding, quiet and obliging domestics, impartial and gentlemanly efforts to promote health and comfort, have any influence upon public favor, the proprietors of the Salt Sulphur will certainly secure it.

With sentiments of respectful regard,

Your obedient servants,

Rev. Benjamin M. Palmer, Charleston, S. C.; James Chestnut, Camden, S. C.; Jos. Otis, New York; Rev. John Johns, D. D., Baltimore, Md.; Alfred Leyburn, M. D., Lexington, Va.; Rev. Henry V. D. Johns, Fredericktown, Md.; H. V. Levis, Philadelphia; Wm. H. Hubbard, Richmond, Va.; Thomas Wilson, Baltimore; Thomas Easley, Halifax co., Va.; A. Sebrell, Kanawha, Va.; William Ellicott, Ellicott's Mills, Md.; Willis Jones, M. D., Milton, N. C.; Henry P. Norris, Baltimore; R. Jones, U. S. A., Washington; W. B. Meacham, Mississippi; Peter H. Dilliard, Rockingham co., N. C.; James V. Toby, New Orleans; Geo. L. Twiggs, Georgia; Richard Tubman, Georgia; S. T. Gaillard, South Carolina; P. A. Clay, Bedford, Va.; Jacob G. Davies, Baltimore; Samuel R. Smith, Baltimore; Robert M. R. Smith, Baltimore; J. B. Grimball, South Carolina; Oliver Norris, Baltimore; A. K. Brown, Petersburg; Wm. A. Caruthers, M. D., New York; Jno. Clark, M. D., New York; Samuel St. John, Jun., Mobile; William Wilson, Lexington, Va.; Charles S. Richards, New York; Olio Dyer, Mobile; William Bones, Charleston, S. C.; John P. Staples, Patrick co., Va.; Geo. Walton, Lynchburg, Va.; John T. E. Lewis, Brunswick, Va.; James Greenlee, Rockbridge co., Va.; Benj. B. Duke, Louisa co., Va.; M. H. Dosson, Louisiana; Wm. Brown, North Carolina; John Harleston, South Carolina; Francis D. Quash, South Carolina; S. Garland, Lynchburg, Va.;

Geo. C. Friend, Charlotte co., Va.; Edward Wilkins, North Carolina; Orlando S. Rees, South Carolina; J. B. Billysley, South Carolina; Thomas Shivers, Philadelphia; F. Pinckney Lowndes, Charleston, S. C.; Thomas W. White, Halifax county, Va.; Burwell Basset, Williamsburg; C. P. Dorman, Lexington, Va.; Charles H. Robertson, Charlotte county, Va.; Henry Robertson, Charlotte county, Va.; Samuel N. Stevens, Charleston, S. C.

Salt Sulphur Spring, August 13th, 1838.

Messrs. Erskine and Caruthers:

Gentlemen,—Having been greatly benefitted by drinking the waters of your valuable Spring, I deem it a duty to my fellow-beings to leave this statement of my case in your hands.—For six months previous to my coming here, I had been suffering with a most obstinate constipation of the bowels, which I had tried in vain to remove by medicine, diet, and exercise; and during that time I could not obtain a stool without the aid of an injection, and great pain attending it. After being here ten days, the Salt Sulphur water began to act freely on my bowels, and now, at the expiration of a month, I am glad to inform you that the constipation is entirely removed, my health and strength restored, and I am now going home in cheerful spirits to my friends. Yours, truly,

GEORGE A. BUTT, New York.

Salt Sulphur Springs, August 10th, 1836.

Mrs. —— left her house in a state of great debility, scarcely able to walk, and was but little recruited by the journey. She reached the Salt Sulphur on the 20th July having stopped a week at the White Sulphur on the way but without using the water. After remaining three days at the Salt Sulphur, and partaking of the waters there she proceeded to the Red Sulphur, and staid there six days

returning on the 29th July to the Salt, having, while at the Red, used two or three tumblers of the water per diem; remained at the Salt Sulphur until the 9th of August. When Mrs. —— arrived first at the Salt Sulphur, she weighed 91 pounds, and was unable to walk any distance, or use any degree of exercise, without suffering greatly.

In thirteen days after her arrival at the Salt Sulphur, she was again weighed in the same scales, and had increased to 95½ pounds, making a gain of 4½ pounds in weight, while the circumference of her waist had been reduced nearly five inches. In the interim, her countenance and eyes had undergone an essential change for the better, her spirits and strength restored, so as to take any ordinary exercise of riding or walking without inconvenience. The quantity of water which she ordinarily took was from three to four glasses per diem, and she was careful in her diet, avoiding all warm bread, and principally using bran bread, hominy, mutton, &c. &c.

Stanton, March, 1822.

Some years since I was afflicted with an obstinate and dangerous disease, from which I was unable to obtain relief until I visited the Salt Sulphur Spring, near Union, in the county of Monroe. The use of that water restored me to perfect health; which makes it my duty to state, at the request of the proprietors, the high opinion I have formed of its medicinal efficacy. I consider the Salt Sulphur water eminently useful in all cases that require cathartic remedies, particularly such diseases of the liver and stomach as proceed from biliary obstructions. The operation upon the bowels is active, but not violent; cleansing effectually the alimentary canal, and promoting digestion in a remarkable degree. The cathartic tendency of the water is so mild and certain, that the stomach and bowels are never oppressed or irritated; and whilst the healthy functions of the system

are enabled to take their course, the suspended causes of disease are gradually worn away.

BRISCOE G. BALDWIN.

In the year 1812 I visited the Sweet and Sulphur Springs. I was then laboring under a nervous debility and extreme costiveness. I derived much benefit from the use of all those waters, but found none so strong and active as the Salt Sulphur. I concur in the opinion with many, that this is a valuable water, and should be more sought after.

Certified this 6th day of May, 1823.

S. B. CHAPMAN.

Salt Sulphur Springs, August 31st, 1836.

Messrs. Erskine and Caruthers:

Gentlemen,—Intending to leave your excellent and perfectly arranged establishment to-morrow on my return home, I cannot, however, do so without expressing my thanks to you for your politeness and attention to myself, (and I observed the same attention to others,) during my stay at the Salt Sulphur; and I have much pleasure in saying, that the use of the Salt Sulphur Spring water has been eminently beneficial to me, for, prior to my coming here, I had been suffering for upwards of eighteen months from a total derangement of stomach from a long residence in a warm climate (Bermuda), say, bad bile, great acidity of stomach, and an overflow of mucus to the lungs; in short, I had the dyspepsia with all its disagreeables, accompanied with debility of body. Having tried the White Sulphur for ten days without benefit, I came here, and in a week I found relief from all my complaints; but my medical adviser, who practised at the White, recommended me to try the Red Sulphur, notwithstanding my having written to him of my improved state,—my pulse, for one thing, being reduced from 80 to 73 beats. I went to the Red, and staid

there eight days ;* my pulse rose on the third day to 82, the fifth day 89, the sixth day to 96 and 100. I was obliged to be leeched,which reduced my pulse to 84. I had three headaches and great dryness of tongue ; so on the 9th day in the morning, I returned to the Salt, where, on the fourth day, my pulse was again at 73, on the sixth day at 71, and has continued from that day to this, varying only from 71 to 72, night and morning.

I *always counted my pulse in bed*, when quiet, before drinking the water ; for, after drinking the Spring water, my pulse latterly came down to 68 beats. I was attentive to my diet, taking only stale bread or dry toast, with scarcely any butter, two cups of tea with milk (no cream) for breakfast ; my dinner was mutton (*no gravy*) with rice and stale bread, no other vegetable—sometimes I took roast fowl, but no pudding or pies ; at tea-time, I took one cup of tea and stale bread, no butter, I found grease so bad for me. The quantity of water taken by me was two half-pint tumblers at half past 5 o'clock in the morning in bed ; one tumbler at 12 o'clock ; sometimes one at 5 o'clock ; and when in bed at night I took one more tumbler of the water, but if I wished to perspire a little more freely, I took two tumblers of it. I found the water determine gently to the bowels, rather than to the kidneys. What I took produced a full movement of the bowels. Before breakfast I walked a quarter of an hour ; between breakfast and dinner I walked about five miles, often going to Union ; between dinner and

* We have a distinct recollection of this gentleman's case. He had been laboring under chronic irritation of the stomach, which, by too free use of the Sulphur waters, and perhaps imprudence in diet, was converted into an acute form, about the time he reached the Red Sulphur. Dr. Saunders, then resident physician at the Red, instituted a vigorous treatment, which in a few days subdued the attack, and the patient's system was now in a condition to receive all the benefit which he subsequently derived from the Salt Sulphur.

bed-time I think I walked about two miles more. I used to calculate about seven miles a day. For one hour after dinner I remained quiet in my room. I ate fruit once, and it gave me such a lesson I never tried it again. I am thus particular; for it may be of benefit to some one else next year, and you are quite welcome to show this letter if you wish it.

Wishing you your health, not forgetting Mrs. Erskine, I remain, gentlemen, your obedient servant,

W. H. Burnaby, Baronet.

Salt Sulphur Springs, September 22d, 1839.

Messrs. Erskine & Caruthers:

I have been affected for five or six years with an obstinate disease of the liver, and dyspepsia, and have visited nearly all the Springs in the mountains without having experienced any material benefit, until I came to this place. I have applied to some of the best physicians without being relieved, but am happy to state, that the Salt Sulphur water has had a most beneficial effect in removing many of the inconveniences attending my disease, insomuch that I am induced to carry a portion of it home with me.

Yours most respectfully,

Joseph E. Garratt.

P. S.—I am a resident of Knoxville, Frederick county, Maryland. J. E. G.

A true copy of the original,

E. & Caruthers.

ANALYSIS OF THE SALT SULPHUR SPRINGS,

By Prof. Wm. B. Rogers.

Temperature variable from 49° to 56°. Solid matter procured by evaporation from 100 cubic inches, weighed after being dried at 212°, 81·41 grains.

Quantity of each solid ingredient in 100 cubic inches, estimated as perfectly free from water.

1	Sulphate of Lime,	36·755	grains.
2	Sulphate of Magnesia,	7·883	"
3	Sulphate of Soda,	9·682	"
4	Carbonate of Lime,	4·445	"
5	Carbonate of Magnesia,	1·434	"
6	Chloride of Magnesium,	0·116	"
7	Chloride of Sodium,	0·683	"
8	Chloride of Calcium,	0·025	"
9	Peroxide of Iron derived from Proto-Sulphate,	0·042	"
10	An azotized organic matter blended with Sulphur, about	4	"

11 Earthy Phosphates, a trace.
12 Iodine, "

Volume of each of the gases contained in a free state in 100 cubic inches.

Sulphuretted Hydrogen,	1·10 to 1·50	cubic in.
Nitrogen,	2·05	" "
Oxygen,	0·27	" "
Carbonic acid,	5·75	" "

"I enclose you a list of the ingredients in the Salt Sulphur water, which applies to the New as well as the Old Spring, the former having rather a smaller amount of saline matter in general, though in some ingredients surpassing the other. It has been very minutely analyzed, and is the first of all the waters in which I was able to detect traces of Iodine, which it contains in larger amount than the Old Spring, and indeed most of the other waters in which I have been so fortunate as to discover this material."

In connection with the claim of the agency of Iodine in the New Spring, we give insertion to the following interesting certificate.

Union, Monroe County, Va.,
15th December, 1845.

During the summer of 1845 I was induced to try the Iodine Spring, at the Salt Sulphur Springs, in Monroe, for an obstinate and (as I then supposed) incurable eruption on the skin of one of my children. The disease first appeared, at the age of three weeks, in the shape of small red spots upon the cheeks, succeeded very soon by little watery pimples, which rose and broke continually, but without healing. In a short time the affected parts increased in size as well as quantity, until they extended from the face to the head and neck, and thence over the entire body—presenting one uniform and consolidated appearance of disease over the whole surface. The neck, head, and face discharged matter from the scabs, and the legs from the knee down. For fourteen months I kept the child constantly under medical treatment, but without any permanent benefit, or any prospect of recovery, until, at the instance of Dr. M.—— (who at that time was residing at the Salt,) I was induced to make a trial of its waters. He represented the disease as a constitutional affection of the blood which could not be relieved, and which ought not to be arrested very suddenly, but assured me, very confidently, that it would yield to nothing with so much certainty and success as to the external application of the Iodine water at the Salt. The child was bathed twice a day in the water made gently tepid, of which it drank pretty copiously during the ceremony. About the fourth day there was an evident change for the better, and the child from that time continued to improve daily, until at the expiration of six weeks, the sores had healed, the scabs had disappeared, the pimples and splotches had subsided, and the skin for the first time for more than fourteen months assumed a natural and healthy appearance. I have no doubt

by remaining a few weeks longer every vestige of the eruption would have been removed. But I consider the disease at this time as effectually conquered, and as having changed its type completely. Indeed, the only indications ever visible are an occasional roughness on the skin. As we used no medicine, except occasionally some mild cathartic, I feel no hesitation in ascribing all the results that I have stated to the effects of the Iodine water.

WILLIAM G. CAPERTON.

CHAPTER XXI.

BLUE SULPHUR SPRINGS.

The Blue Sulphur Spring is situated in the County of Greenbrier, in a beautiful valley, through which flows a streamlet bearing the unclassical name of *Muddy Creek*. It is twenty-two miles, in nearly a western direction, from the White Sulphur, on the road to Guyandotte, and thirty-two miles north by east of the Red Sulphur, with which it is now connected by a fine turnpike road. The improvements consist of a brick Hotel—180 feet long, and 50 feet wide, 100 feet of which is three stories, the remainder two stories, with a portico 12 feet wide the whole length. Attached to this building is another, two stories high, 90 by 32 feet; and adjoining this latter is a two story brick building, 150 by 17 feet, also having a two story piazza. The whole of these piazzas connect; making a continuous piazza of 420 feet. This range of buildings affords a dining-room 180 by 30 feet, two

large receiving rooms, a ball and drawing-room, bar-room, counting-room, and a large number of very comfortable chambers, most of them having fireplaces. At the north end of the Hotel are several brick cottages containing two and three rooms each, for families; and several frame cabins in the lawn. We think the establishment can comfortably accommodate 220 persons. We said that this valley is beautiful; we should, perhaps, have said, *it has been. Fuit Ilium.* Never have we seen bad taste more unfortunately illustrated than here. It seems as if the designer had his brain *obfuscated* by mint-julap. What man in his sober senses could have ever thought of spoiling a lovely valley like this, admitting a prospect of several miles, by throwing across it from hill to hill a long line of buildings which could have been so easily and so gracefully ranged along the sides; not only obstructing the view, but also preventing the delightful current of air which otherwise would have fanned it in the dog-days? Not content even with this piece of botching, they must permit Dr. Martin to erect his *tartarean ovens* also across the valley, leaving the

Temple containing the Spring, and the lawn in which it stands, bounded by brick walls and mountains. We found Dr. Martin a polite old gentleman; but we wished he had been a *bird of passage*, and could have carried his nest in his *bill*, never again to mar this charming valley. We were angry enough to throw him into his own boiler, or worse, to consign him to the care of Dr. Moorman, who might cause him to *evolve gas in the stomach*, for such an act of barbaric taste. Notwithstanding all that has been done to spoil this place, it is still interesting and beautiful: indeed it will compare favourably with any of the watering places in this region. The Spring rises in the centre of the vale, and is covered by a well-designed but badly executed Temple. The fountain is enclosed in marble slabs, is five feet in diameter, and one of the most beautiful objects imaginable. The sides are covered with a brilliant pink deposit, and the clear, cool, crystalline water seems to say, "Come and drink me." It flows off in a large stream, and is conveyed by pipes to Dr. Martin's baths. It appears that after the Temple was built, our old friend Major Vass (our in-

formant is Dr. Martin) undertook to arrange the fountain so as to square with the building; but at that very time, a *hail-storm*, mingled with *mountain-dew* or *fog*, happened to set in, which so blinded himself and workmen, that notwithstanding the remonstrances of the said Dr. Martin, (who happened to be sheltered from the *storm* by one of the columns, and could, therefore, see the work was not *square*,) the angles of the fountain were made to deflect some 18 or 20 degrees from their intended position; the Major, all the time, swearing all was *as straight as a shingle.*

This, with a little *embellishment*, is Dr. Martin's version of the story, which he narrated with the grace of a French comedian; if the worthy Major give his version in time for the next edition, we shall insert it with pleasure. The temperature of this water is about 53 degrees: it is pleasant to the palate, but it is a heavy water: it imparts not the agreeable feeling to the stomach which is imparted by the White Sulphur; nor does it possess that light tranquillizing property that characterizes the Red Sulphur. Our opinion of this water is founded on a slight ac-

quaintance, and therefore we desire that it may be taken only for what it may be deemed worth ; but we have taken this impression with regard to it, that it cannot be drunk in as large quantity as either the White, or Red, or Salt, with equal advantage. We are perfectly satisfied it is a valuable water ; but dyspeptics, especially, may do well to *begin*, at least, with small potations, and if they find it agree, it is easy enough to increase the quantity. Indeed, it would be well if this course were pursued with all those waters ; but unhappily this view is taken by a very limited number of those who visit mineral waters. A peculiar merit is claimed for this water in regulating certain periodical secretions ; but we are disposed to think its power in this respect is exaggerated ; at least, that it has no specific action different from other sulphur waters. Let the ladies try, though, and judge for themselves.

Dr. Martin, a Frenchman, has, as the reader is already aware, erected a Bathing establishment at this place. His arrangements are quite extensive and well contrived, and enable him to give plain or medicated baths of

any temperature. There can be no question of the utility of these baths, if judiciously administered; they would be equally deleterious in the hands of an empiric or a selfish, disingenuous man. The only knowledge we have of Dr. Martin is derived from a brief acquaintance, during which he was most agreeable and attentive, and we understand this is his uniform manner. He is courteous, affable, communicative, and on the subject of *Vapour Baths* he is always fluent, nay, sometimes eloquent. We could perceive he was an especial favourite with the ladies. And, now, we owe the Dr. an apology for being so rude as to wish him subjected to the manipulations of Dr. Moorman. Indeed, Dr., we were joking! We are sure you prefer your own odoriferous vapours to those evolved by your learned neighbour.

The Blue Sulphur property is owned by a company of gentlemen, one of whom, George Buster, Esq., resides at the place, and conducts the establishment. It would be doing great injustice not to say that the *style* of living here is more elegant than we have met with at any of the Springs. The furniture is better,

the appearance of the table is neater, and every thing bespeaks comfort and attention. We have seen quite as good things at other Springs, but nowhere as well served, except, perhaps, at the Warm Springs and Salt Sulphur. Mr. Buster himself made a favourable impression on us, and our inquiries satisfied us that our prepossession was justified, by his uniformly estimable deportment. We trust he will reap the just reward of his attention in an annually increasing company.

DAGGER'S, OR DIBRELL'S SPRING.

Dagger's, or Dibrell's Spring, is situated in a glade near the western base of the Garden Mountain, on the main road from Lynchburg to the White Sulphur, *via* the Natural Bridge, from which it is distant about 14 miles.

We were informed by the worthy proprietor, Charles L. Dibrell, that the number of visiters sometimes reached 200; but we should think 150 as large a number as could be accommodated with any degree of comfort. The buildings are well arranged for convenience and effect. The lawn is a very beautiful slope, descending from the Hotel to the Spring some 300 yards, and is well shaded by fine indigenous trees. Altogether, it is an interesting spot, and affords to the weary traveller, after a long day's journey, a sweet haven of repose and quietude, from whence he may retrace, with his mind's eye, the magnificent scenery he has just passed, and especially that most sublime of all the creations of Nature in

Virginia—the passage of the James River through the Blue Ridge Mountain. This scene is incomparably finer than that at Harper's Ferry; but magnificent as it appears from the road, it must be inconceivably more so from the bed of the river. It is through this wonderful gorge that the great James River and Kanawha Canal is to pass, and we venture to predict that this scene alone will be worth to the company tens of thousands.

In our enthusiasm we had almost forgotten the Natural Bridge. Of the latter it is impossible to convey any adequate description; it must be seen to be appreciated; but let the reader loiter under or over this great arch for an hour or two, and after partaking of a substantial dinner with the *Pontifex*, if so we may call the important personage who supplies bacon and beans, let him wind his onward way under the cone of the Garden Mountain, and our word for it, he will find the kind attentions, the delightful fare, and comfortable lodgings of our friend, Mr. Dibrell, irresistible inducements to rest for a few days.

The Sulphur water at this place is said to be efficacious in several diseases, but on this

head we have no information within our reach on which reliance may be placed. It bears some similarity to the White and Blue Sulphur waters, and is probably in some degree applicable to the same class of diseases.

Within the last three years, this Spring has reverted to Mr. Watkins, from whom, we believe, it was purchased by Mr. Dibrell. We hear it is well kept, and attracts a due share of custom.

ALUM SPRINGS.

These Springs are situated in Rockbridge County, on the main road from Lexington to the Warm Springs, about 17 miles from the former, and 20 miles from the latter. The location is a narrow valley, between the North Mountain on the east, and the Mill Mountain on the west. You descend into it, from the *high-road*, by a steep and narrow road, and you think you are then fairly within the south pole, for if you desire to emerge again, you must come out through the same *hole* by which you entered. The cleared space, including a meadow to the north of the buildings, is fifteen acres; so, it will be perceived, there is not much room for circumambulation, unless, indeed, you are as fond of climbing as the caprine race.

The buildings for the accommodation of visiters are a frame house of two stories, containing a dining-room, a parlour, dancing-hall, and several lodging-rooms, and at either end

are six cabins, containing each two rooms. The centre building immediately fronts the Springs, and is about sixty yards distant. There is a broad walk from one to the other, and a circular road or walk for carriages to approach the door; but, with these exceptions, the grounds are pretty much as they came from the hands of nature. The hill, at the base of which are the Springs, forms a graceful curve of almost mathematical regularity, and is about 100 feet high. It was so nearly perpendicular at some former time as to have produced an *avalanche* of the soil, which denuded a stratum of slate-rock some sixty feet in height, with a north-eastern dip. At the bottom, three basins have been picked out, and into these, inaptly called Springs, oozes the water through the interstices of the rock.

In dry weather, the supply is very scanty. A hundred persons might drink them dry; but in wet weather they afford an abundance, and, contrary to all other waters, are then strongest; for the rain water acts as a solvent of the mineral which seems incorporated with the whole formation. The water is in demand from a distance, and is sold by the pro-

prietors at $1 per bbl. Some take selected pieces of the rock, which they pound and put into rain water. By this process, it is said, a water equally efficient is prepared, and we doubt not such is the fact. Pills are also made of the *residuum* after boiling, which seem to possess most of the virtues of the water. They dissolve slowly in the mouth, and it appears to us this would be a more judicious mode of using them than swallowing them entire. No analysis has yet appeared of this water. Besides *alum*, it certainly contains *copperas*, and is supposed also to contain *magnesia*. Many wonderful tales are told of cases of scrofula cured by the water. Making due allowance for exaggeration, (and we imagine there has been a good deal of it in this case,) there must have been several well-authenticated cases of relief, if not of cure; and to persons afflicted with that unmanageable disease, it is certainly worthy of a trial. We met there an able physician of the U. S. Navy, who expressed confidence in its powers. We also saw a friend who has visited the place annually, for several years, with his family, members of whom had derived

great benefit. We can readily believe that it would be a useful remedy in cutaneous eruptions, and in some forms of diarrhœa; but it is now recommended for liver complaints, and all other complaints, from the beginning to the end of the catalogue. So far from being general in its application, we should consider it as the water least capable of being profitably employed in any variety of diseases, of all the waters in the mountains. Here we found persons who were drinking twenty or more glasses a day of an agent confessedly very powerful for good or for evil. Surely this is an abuse, and can result in no advantage.

The establishment, which is calculated to accommodate about eighty persons, (though the number *has* exceeded a hundred,) is owned by a family of the name of Campbell. Two brothers leased the ground for a term of years, at the expiration of which it reverts, with all the improvements, to the heirs, of whom we learn there are eight. It is not probable that the improvements will ever be much more extensive than they are at present; indeed, the character of the locality, the want of arable or pasture land, and the difficulty of

procuring supplies, will prevent its growth. The Mill Mountain, eight miles on one side without a habitation, and the North Mountain on the other, have to be crossed in order to hunt up supplies for the company that now frequents it. The fare is wholesome, but plain, and indifferently served. It is the old style of mountain cooking ; well enough for a hungry hearty man, but not very inviting to an invalid. The private cook of a plain farmer in the mountains of Virginia cannot be supposed competent to cook for 100 persons, who have been accustomed to neat and comfortable living. We would therefore urge upon the Messrs. Campbell the importance of making a change in this department of their household ; and we hope they will not take it amiss, when we advise a little more care in helping their guests. No matter how good the meat may be, nor how well cooked, if you cut it as you would for a dog, you get no credit for its quality ; indeed, we noticed this to be a very general fault at the Springs we visited, and we desire to be understood as throwing out the hint for all such as are careless in this particular. They have fallen on another plan, too,

of helping a man so scantily that a very moderate eater can dispose of the whole in one morsel: this is ridiculous and annoying. A man dislikes to be sending his plate repeatedly away, and is justly irritated.

We found the Messrs. Campbell sufficiently obliging, and their sister, who attended to the female department, seemed a kind, motherly woman. The plan on which the establishment seems to be conducted is to do all they can within themselves. It is the true plan, and the only one by which money can be saved; but yet, there are certain things indispensable, and if they cannot be supplied from within, they should be sought for abroad. We have very little doubt that this place has made more clear money than places of much greater pretension. If these gentlemen keep a *neat*, *comfortable* house, we are sure they will do a profitable business.

FAUQUIER WHITE SULPHUR SPRING.

As the epicure leaves the most delicate morsel for the last, so we have reserved for the last place in our book the description of this most charming establishment; and having thus, contrary to our original design, entered upon the Springs of *Eastern Virginia*, we will probably, at some future day, embrace all the others, and perhaps the Bedford Springs of Pennsylvania. On the 19th of July, 1844, after an early breakfast, a horseman, accompanied by a young lady, also mounted on her palfrey, left the comfortable Hotel at Fredericksburg, and crossing the Bridge to Falmouth, took the road leading to the Springs. The road for several miles from Falmouth was rough and the scenery uninteresting. At the end of twelve miles, they reached a very plain frame house, whitewashed, and, at some little distance, looking as if the occupant had, benevolently, bored holes all over it, for those gay little annual visiters, the martens. A

nearer view, however, exhibited the reality, which was nothing more than circular black spots made with lampblack, on the whitewashed boards. The notion was *queer*, and the travellers deeming it probable that the *Spotted Tavern* might not only afford them shelter from a burning sun, but also some amusement, determined to dismount, and explore the premises. Reining up their steeds, two lusty negresses, who had been scouring the porch with all their might, came forward and took charge of the horses, and a blast from a horn soon brought up the ostler. Entering the house, the travellers were agreeably surprised by the neat appearance of every thing around them. The floor, the furniture, the snow-white tablecloth, the clean tea-things, the nice biscuits and cool, fresh butter, all, all were most inviting. The travellers did ample justice to a *second breakfast.* How refreshing it is to one, who has been living in the city, to get into a nice country house. You are so much at your ease, your spirits are so calmed and tranquillized. Where, too, but in the country, can you get a draught of clear, cool water from the limpid spring, or deep well? Certainly, not

in Richmond, where you have to pay ten dollars a year for the privilege of swallowing mud. A *well-bred* horse, in the country, would refuse to drink such water as a Christian people are taxed for in the metropolis of Virginia.

After a day spent most agreeably, partly under a beautiful arbour, the travellers mounted for White Ridge, distant about eight miles. The view of the mountains in approaching this place was pleasing, and they had formed altogether favourable anticipations. The host and hostess were kind, but not very well prepared to entertain travellers. The little upstairs rooms in which they were sent to lodge were so suffocating, that after throwing open his window, the elder traveller lay across his bed, with his head on the window-sill, to try and inhale a little fresh air; while his more delicate companion was suffering all the tortures which such an atmosphere could inflict: How they rejoiced at "the morning's first beam." How hurriedly they huddled on their clothes, and descended to the porch, and looked out upon the distant hills, and inhaled the balmy air. Here, too, they exclaimed, is the

lovely country; but it is distance alone that lends it enchantment; so, let us mount and breakfast in *Germantown*. The travellers *did* mount, and entertained themselves by speculating on the subject of Germantown: how many stores and blacksmiths' shops and taverns were in this imaginary village. They were told that after riding ten miles they must turn off a little from the main road, and having followed directions, they arrived in due time at Germantown. Suddenly burst upon the view the *Germantown Inn, alone in its glory*. It was a frame house, Low Dutch in appearance, having a neglected air, and the best-looking furniture it possessed seemed to consist of white-headed children. The travellers ordered breakfast, paid for it, ate *nothing*, and again to horse and away ten miles, under a scorching sun, for the White Sulphur; where they arrived about noon, hungry, thirsty, and exhausted. It is only adventures and contrasts, such as those travellers encountered, that can give zest to country excursions. A cit. leaves Boston and is whirled along with his head swimming all the time, and though he passes magnificent scenery and lovely villages,

so far as enjoyment is concerned, he had as well be blind. In a few hours, he reaches Albany, is treading upon India matting, sipping sherbet, smoking his cigar, and looking *dignity*. Again, crack goes the driver's whip, and he is rolled along in a fine coach, and struts his little hour upon the stage at Saratoga. Who meets him here? The same man to whom, two days ago, he sold $10,000 worth of rail-road stock, in Boston. Ha! Smart, are *you* here? spending your profits on that speculation, I suppose? $500—that is all I made—*Gulley*, nothing to talk about. What news? eh! the Great Western arrived—cotton flat—bread-stuffs looking up—rail-roads in England all the rage—and here? Oh! here, the centre of attraction is Miss Flora Roseneath—cool $250,000, and 150 darkies; and Miss Julia Winterblossom, sole heiress to a great shoe-manufacturer at Lynn—only half a million! 'Pon my soul, Smart, good stock this! Suppose we try a hand—have you any qualms about the woollies? You know I am somewhat of an abolitionist; so, here is for Lynn and Julia. She has, indeed, a few carbuncles on her cheeks, but the essence

of gold-dust is a fine cosmetic, and will presently heal them. Well, Gulley, agreed: Miss Flora and the darkies, against Julia and the brogans. A pair of pumps to the winner, eh! a bargain, a bargain: and thus the speculators in stocks become speculators in matrimony. Such is Saratoga, and such a great portion of the *matériel* of which its society is made up. *That matériel* wants, and ever will want, the enchanting simplicity of manner, dignity of deportment, and air of true gentility, founded on benevolence and forgetfulness of self, which distinguish nature's gentleman from the mere cockney and pretender. We are fully aware that the *élite* of American society annually assemble, in large numbers, at Saratoga. From all points of the compass they flock to that fashionable resort. But we assert that there is more of the *pure ore*, and less *alloy* to be met with, in the society annually visiting our watering-places, than is to be met with north of the Susquehanna. The day may come when, through the agency of rail-roads, it will be otherwise; but, sufficient for the day is the evil thereof; meantime, let us enjoy the blessings within our reach, and

not forget the claims of the beautiful Fauquier Springs.

It appears from a report now before us, that the "medicinal qualities of the Mineral Spring were known and highly appreciated in the neighbourhood, long before it became an object of general resort. The resort of the neighbourhood was constant and persevering, and caused such interruption to the farm operations of the former proprieters as induced one of them to fill up the Spring; but so clearly had its value been established, as induced Mr. Lee to purchase it with a view to open it to the public. His experiment was at first on a small scale, but the throng of visiters soon demonstrated the expediency of more extended operations, and a greater outlay of capital. Mr. Green united with Mr. Lee in the enterprise. They have planned and executed improvements, better calculated to promote the comfort and please the taste of visiters, than are to be found at any other watering-place in the State. The buildings already constructed might accommodate 800 guests, and are so contrived as to admit of indefinite enlargement without deranging the symmetry of the plan."

The improvements are—a Pavilion, 188 feet long and four stories high, with a grand Portico on its western aspect, overlooking the lawn and a long line of diversified country. We have seen nothing of the kind to compare with this magnificent promenade; we mean, of course, in the country. On the eastern aspect, it was the design of the proprietors to erect a similar Portico, and to connect that front by means of an arch with another Pavilion east of it, 100 feet long and four stories high; but when the timbers were all ready, the workshop was destroyed by fire, and this part of the design remaining unexecuted, gives an unfinished appearance to this front of the *great Pavilion*. We trust that, one day or other, the original plan will be carried out, and sure we are, that if its projector, Thomas Green, Esq., becomes again largely interested in the property, his fine taste as well as good judgment will insure its completion. Besides the two great pavilions just described, there are two large brick buildings, three stories high—two others, 56 feet long each, and two stories high—and twelve other brick buildings, 56 feet long each—(all covered

with slate except one)—the Bath-house and the Spring House. All these improvements and 1184 acres of land, together with a tract of 1750 acres, lying south of the Rappahannock River, were conveyed in August, 1837, to a company in 2500 shares at $68 per share, making for the whole $170,000, by the then proprietors, Thomas Green and Hancock Lee. By this company it has since been held. They have made no important improvements since that period, and their policy seems to have been to keep free of debt and wait for better times. Such times are now fast approaching, if no wicked experiments again dash the cup from the lips, and there is little doubt that the investment in this property will yield a fair return. The arrangements have been much and justly praised. If one who can lay but little claim to taste in landscape may venture an opinion, he would suggest that the grounds are too much broken up by walks and shrubbery. The *parterre* style of laying out grounds is now properly abandoned. A beautifully green and shaven

sward, with a great centre-walk, as now, and other walks such as *convenience* might dictate, with, here and there, a rose-bush or shrub, would be infinitely more pleasing to a cultivated taste, than all the superfluous ornaments, that now, like flounces and French millinery, hide its symmetry and elegance. If the company would act upon this hint, and, placing a simple but beautiful *Pagoda* on the summit of the lovely western hill, immediately in front of the centre of the Pavilion, would transfer to that place some of the shrubbery now in the way, and improve the grounds in that direction by well-graded walks, furnished with rustic lounges and resting-places for pedestrians, and make a handsome drive for those who are ambitious to display a fine equipage, all which could be done at a moderate expense, we know of no place that may vie with the Fauquier Springs.

The interior arrangements of the Pavilions and Cabins are well calculated to afford comfort. The ball-room, drawing-room, dining-room, and parlours, are all spacious and suitably furnished. We must, nevertheless, say, that at the time of our visit, when the com-

pany did not exceed fifty, we were greatly disappointed in the appearance of the table. The table-cloth was coarse, and not of *snowy whiteness;* the china chipped and broken; the knives and forks neither sharp nor well cleaned, and there were other signs of a "falling off," which we could have wished had not been so palpable. We deem this miserable economy, and hope it has been corrected.

Mr. Ward, the manager of the establishment, is an amiable and kind landlord, and we are sure he is disposed to do all in his power to make his guests comfortable; but he cannot do it if stinted in the means. A certain degree of style in living is expected at a place, the exterior of which is so imposing, and it is true policy to maintain appearances all through the establishment. The encouragement held out to the company by the success of last season will, no doubt, induce them to supply every thing essential to comfort.

No analysis of this water, of an authentic character, has been made public. It neither possesses saline matter nor sulphuretted hydrogen in as large quantities as the Western White Sulphur, nor is it comparable to it as a

medicinal agent; but there are cases to which the latter is unsuited that would be benefited here; certainly, it would be a more rational plan to use this or some other milder water than to drink *stale* water in the county of Greenbrier or Boston. We are well satisfied that this water is valuable in Dyspepsia. It is light, and feels comforting to the stomach in most instances. With the aid of a little blue mass, it will also be found useful in exciting to action a torpid condition of the liver, and we can readily suppose that it may prove useful in dropsy and several diseases for which resort is had to Sulphur waters. There is here a most comfortable Bathing establishment, which greatly enhances the advantages it presents in other matters, and those advantages must insure to this place a steadily increasing custom, and cause it to rank in point of numbers and fashion among the first of the Virginia Springs.

TAVERNS.

THE notice we took of the "Spotted Tavern," on the road to Fauquier Springs, was incidental. It was not our intention to touch on this subject, lest we might do injustice to some of those who deserve well of travellers by keeping comfortable and neat accommodation along the different routes to the Virginia Springs. Of the houses on the road from Guyandotte to White Sulphur, we know nothing; but presume, as it has been so long the great stage route, they are *good*. On the road from Lynchburg to Sweet Springs, there is a delightful house kept at New London, by Mr. Eccoles. The house at Liberty is an excellent house; at Beaufort's, plentiful and neat: at Fincastle, the tavern is, or was, well kept by Mr. Lancaster; and we found the stage-house, kept by Scott, west of Price's Mountain, a very good house. The Eagle Hotel, at Charlottesville, we found admirably kept, this last summer; Cocke's is an old stand, well

known; the rooms and beds are comfortable, and the servants attentive. The fare is such as is usually found at stage-houses—the same now it was fifteen years ago. The house is neat, and comfortably furnished. Brookville Tavern is said to be well kept, as also the house of Mrs. Jones, in Waynesboro'.

The houses west of Staunton are pretty much on a par, with the exception we shall notice by-and-by. The houses at Winchester, Fredericksburg, Lynchburg, and Staunton, are quite respectable, and afford the traveller much comfort. There is, on the road from Waynesboro' to Lexington, a house at Greensville, kept by a Mr. Smith, which is most comfortable. This family know what good living is, and are kind and attentive. There are two other houses in the village, said also to be very good. The stage-house, and only house at Lexington, we found crowded, as we were told it usually is, in summer. It is kept by Mr. Sloan, a very kind and agreeable man. The fare was moderately good, but the servants either had too much to do, or were incompetent.

There are, on the road from Charlottesville to White Sulphur, two localities so favourable

as resting-places for the weary traveller, that we cannot pass them over without a more extended notice. In doing this, we are altogether influenced by the desire to benefit the traveller, and not by any disposition to invidiously discriminate. The houses to which we refer are the *Mountain Top* and *Callaghan's.*

The house on Mountain Top is on the western slope of the Blue Ridge, at Rock-fish Gap, and about 150 yards from the summit. Above it, rises a cone of the mountain inclining southwest; and to the northeast is another conical mountain, both several hundred feet higher than the house. The view from the Road-summit or Gap, commanding a varied prospect of mountains, forests, and cultivated plains, is, indeed, very fine. In the morning, you may see the glorious God of day emerging from his curtains of purple and gold, and shaking from his locks the dewy drops of Ocean, and with a benign radiance illuming the welcoming features of his fruitful sister. Here, again, at mellow evening, you may see him descending in majestic dignity beneath the great Appalachian Mountains, gilding, in his descent, the green forests and fleecy clouds,

creating a thousand fanciful shapes of castles and giants, old ladies with high caps, graceful giraffes and clumsy elephants. But the view from the point designated is limited in comparison with those that may be obtained by ascending, as we did, the impending cone, by a path which admits of riding within a few yards of the summit. On the hill-side we found a finely-set crop of clover, and near the top a cow, that seemed indignantly to frown upon us, and silently to say, "Thou intruder, what doest thou here?" At the highest *cleared* point was a cluster of disjointed sand-rocks, in the centre of which rose a sturdy oak, which seemed to bid defiance to the tempests; yet the tempests came and shattered one of its arms, while the humble and shrinking shrubbery around it remained undamaged: so it is in human life; those who expose themselves to its tempestuous hurricanes, must, indeed, be clad in panoply, if they escape unscathed; while the gentle and retiring are sheltered from its frowns and its malice. The former may be greater benefactors of society, the latter are more happy within themselves. Carefully observing there was no rattlesnake in

juxtaposition, we seated ourself upon the highest crag, and thence viewed two-thirds of the horizon. Having already given expression to our feelings on similar occasions, we will not fatigue the reader by a repetition; suffice it say, that if any one shall think proper to follow in our footsteps, he will be amply repaid by the scene which we witnessed. Let him go alone, too, and feel that there is nothing but the pure canopy of Heaven above him, and no eye that can look down upon him, but that of his God.

Our object in dwelling upon the glorious prospects afforded by this place, has been to attract to it public attention; but we should do great injustice were we to pass, in silence, its other advantages. A purer air never breathed on this earth than fans the apartments of this *Mountain House*, which is, indeed, admirably divided and adapted for the entertainment of families. If we are not mistaken, it was built, with that view, by the late Dr. Adams, of Richmond, a man who was in advance of the age in which he lived, whose plans, during his life, were scoffed at by puny minds, but who, if he had lived to the present

day, might see their merit appropriated by persons who, when he digested those plans, were in the womb of time, or, at least, in *petticoats*. We remember when this house was neatly kept by the Misses Madison. After that period, being owned by a bachelor, Mr. Leake, it was, for several years, not open for entertainment. Lately, however, it has been opened by the brother of Mr. Leake, and is now kept in the neatest and most comfortable manner. Here the traveller will find good bread, both corn and wheat bread, nice biscuits, good tea and coffee, well-cooked meats, and a delightfully neat-spread table. He will have a fine airy chamber, a sweet bed, a pure atmosphere, cool porticoes and passages, and a giant walnut tree, under the shade of which he may swing himself to sleep in an old-fashioned arm-chair. This house is distant from Weyer's Cave only twelve miles, and is a convenient spot from which to visit that celebrated freak of nature, and from it may be taken various pleasant excursions through the neighbouring valleys. Taking all these advantages into consideration, and moreover, the excellence of the pure freestone water, and the use of a good cha-

lybeate water, and last, though not least, the kind attention of the host and hostess, we do trust that *Mountain Top* will not be passed without *a look* by the traveller.

Come we now to *Callaghan's*. This house is situated in an interesting valley, on the north fork of Dunlap's Creek, and at the intersection of the great eastern and western road, with those to Covington and the Sweet Springs. It would be impossible for any location to be more favourable for a public house, and, accordingly, it has always been a great resort of travel. It was originally owned and kept by Dennis Callaghan, an honest, blunt old Irishman, of whose witty drolleries many are recollected and repeated by the more elderly travellers. The property is now owned by his son, an amiable, unassuming man, though as far beyond his father, in cultivation, as Diomedes was beyond Tydeus in war. In no establishment west of the Blue Ridge has the march of improvement been more visible than at this. The house is, all through, neat and clean and suitably furnished, and the fare is most excellent. Reader, if you have never eaten fried chicken at Callaghan's, then you

do not know the luxury of fried chicken. No French cook can touch it. There is a delicacy about it which you will say you never experienced before. Perfectly done—it is unscorched, white, plump, tender, delicious. It makes our mouth water at the distance of 200 miles. It is not worth a journey across the Atlantic, but if it were at Harper's Ferry, it would make the scene more picturesque: it is the ambrosia of meats—a food which Ganymede may feel proud of serving. We could give you a recipe for preparing it, but we fear you would not follow directions, and you would then imagine we are "*romancing*." Far from it, we assure you; but this is not all; we defy Hebe herself to serve up *nectar* equal to Callaghan's *milk; it is the essence of milk.* We will lead you a little into the secret of its excellence. First, then, the cows are fed plentifully on sweet grass and wholesome provender, well salted and attended; secondly, the spring-house is of equal temperature, and it and the vessels kept neat and pure; thirdly, it is never skimmed for table use; but the morning's milk is used for dinner and supper, and the cream is diffused through it by gently

whisking it. In like manner, the night's milk is used in the morning, and all extravagance apart, there is no milk superior to Callaghan's on the broad earth. Here, too, the traveller will find a species of bread vulgarly called *salt-rising*, which will cure dyspepsia, if any thing can. The table is always supplied with tender venison steak and other delicacies, and, upon the whole, this is one of the best public houses any where to be met with in the country. When you visit Callaghan's, kind reader, after journeying through our book, or drinking stale water with Dr. Moorman, the best thing we can wish you is a good appetite, which we do with all our heart.

ADIEU.

THE END.